

INSIDE DOPE

Learn to live and laugh—
Thus delay your epitaph

By **GEORGE F. TAUBENECK**

Stories of the Week
Gags of the Week
Definitions of the Week
Philosophy of the Week
Human Interest
Guessing Game
Lincoln's Gettysburg Problem
Out of Our Mailbag

Stories of the Week

Stranger in a Maine hamlet peered up at the sky. To loungers in front of the post office he observed:

"Don't mean to scare you fellas, but those clouds look just like they did back home in Michigan before a tornado hit us."

"Was it a real strong one?"

"Howell do you think I got 'way up here?"

"Bad year," mourned farmer Brown. "Wheat poor. Drought killed the corn. Disappointed in our pig crop. Thank goodness, though, nobody else around here did any better."

"Johnnie," rasped teacher, "take that finger out of your ear."

"But Miss Linda," expostulated Johnnie, "I wanna remember the lesson. Mama says anything I'm told goes into one ear and out the other."

First time he collapsed on a psychiatrist's couch Jerk Jr. didn't open his trap.

Second time, likewise. And the third appointment ended in a silent draw. The Doc, of course, was patience personified.

Fourth visit the young man volunteered:

"I like this business. How could I become your partner?"

Gags of the Week

You're getting old when the gleam in your eye is from the sun hitting your bifocals.—*American Eagle*.

I've quit trying to come out ahead, or break even financially. My ambition for this year is to keep up with how far I was behind at the end of last year.—*E. V. REYNER*.

Definitions of the Week

Friends: Two people who dislike another person.

Tact is leaving unsaid the wrong thing at the tempting moment.—*ELLIOT JACKSON*.

"We judge ourselves by what we feel capable of doing, while others judge us by what we have already done."—*LONGFELLOW*.

Boys are the building blocks of a nation. The man who gives a boy a helping hand therefore is building sound foundations for the future.—*PAUL MARTIN*.

Poetic Justice: A man who'd rather play golf than eat marries a woman who'd rather play bridge than cook.

Philosophy of the Week

Man is an ambiguous creature. He has mysterious heights and depths which defy all scientific analyses. Yet he worships the statistician, and decries the directly intuitive insight of poets, prophets, and wise men.

"We're too disease-conscious. We read that one out of three dies of this, one out of five dies of that." (Concluded on Page 8, Col. 3)

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Air Conditioning Dealers Find Sales Ahead Of Last Year Despite Unseasonable Weather

N. Y. Firms Confident—If Hot Weather Comes

NEW YORK CITY—The air conditioning business in the New York City metropolitan area for the year thus far (going into the second week of June) is like this—

Room air conditioner sales are below expectations for most dealers, having taken a bad jolt with the chilly weather that ran through May and early June. But business perked up a little with some warmer weather the second week in June, and with the heavy advertising and promotional effort just now going into full swing, many feel confident that with any show of hot weather there will be a big rush of buying.

"If we get hot weather even as late as July, we think dealers could have a record year," said one of the largest distributors of room units in the area.

In the field of the larger commercial applications, the picture is somewhat better. Most of the firms in this segment of the industry reported that in most cases business was holding up to last year's levels, and in some cases running ahead.

"But although we're running about even with last year," said Ted Reina of M & R Refrigeration, a big distributor-contractor in Brooklyn, "it is somewhat disappointing to us because we were geared up to do a considerably bigger volume this year."

There were some reports that were considerably on the bright side. William Marsh, who represents Carrier Corp. on package equipment in the metropolitan New York, Long Island, and New Jersey areas, said that there wasn't a distributor in his area who, early in June, hadn't been calling him asking for more merchandise. This, he said, was true in all categories of equipment, including room air conditioners.

Others stated that they have the feeling that the market is there, if the weather will just break. As one dealer-contractor said:

"The night that the rest of the population is having a sleepless night in 95° high humidity" (Concluded on Page 25, Col. 1)

N. Y. Sales Chiefs To Hold Air Conditioning Luncheon

NEW YORK CITY—Program for the "air conditioning luncheon" of the New York Sales Executive Club on Tuesday, June 15, will put heavy emphasis on complete-home residential air conditioning.

Speakers will include George S. Jones, managing director of ARI, Dick Hughes of NAHB who will speak on "Homes Without Air Conditioning Will Be Obsolete Shortly," and Charles A. Bowser, director, Underwriters Div., FHA, who will discuss mortgage financing of air conditioning installations.

The Chrysler-Airtemp film "It's In the Air" will also be shown.

Fedders Official Sees Sales of 1½ Million

ATLANTIC CITY, N. J.—That room air conditioner volume will hit 1,500,000 this year was called a "conservative and we think realistic estimate" by Robert E. Cassatt, national sales manager of Fedders-Quigan Corp., in a talk last week before the National Association of Electrical Dealers.

"With the long-range weather forecasts confidently predicting extreme heat in late June, July, and August, and even September, I don't think there are many in the" (Concluded on Back Page, Col. 2)

R. K. Serfass Succeeds J. R. Hertzler at York

YORK, Pa.—The resignation of John R. Hertzler as vice president, director, and general sales manager of York Corp. has been announced by Stewart E. Lauer, president.

At the same time, Lauer announced that Ray K. Serfass, assistant general sales manager, succeeds Hertzler as general sales manager.

Hertzler's resignation as general sales manager became effective" (Concluded on Back Page, Col. 2)

Uproar Marks Hearing On N. Y. Code Change

NEW YORK CITY—A vocal uproar that brought a threat of bodily ejection of some of the participants marked a hearing June 3 before New York City Council's Welfare Committee on proposed changes in the administrative section of the city's refrigeration code.

The demonstration was made by some 300 labor representatives, mostly members of five locals of the International Union of Operat—" (Concluded on Back Page, Col. 1)

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Chicago Dealers Expect Banner Sales Season

CHICAGO—Jubilant over the first really hot weather they have had yet this year, Chicago air conditioning distributors and dealers informed the News last week that sales so far this year are generally ahead of 1953 and they look forward to a banner season in sales.

Most indicated that they are putting more effort, time, and money into promoting air conditioning this year than last year and some said they were trying new approaches to the market—chiefly sending men out house-to-house to sell air conditioning.

The general pattern so far seems to be that sales were far ahead of last year through April, but a cold, chilly May put a real damper on buying. But with temperatures soaring into the high 80's last week, they looked ahead with a great deal of enthusiasm.

While high optimism prevailed, some distributors and dealers were fearful that the effects of the May slump might carry over into June and others kept their fingers crossed that there might not be too much cool weather this month.

ALL TYPES IMPROVED

The general improvement applies to all types of air conditioning—room units, residential package units, and store coolers. Differences of opinion on how good the market for each type is varied according to the emphasis that the individual company placed on that particular market.

Those who put more effort into selling commercial coolers, for instance, found that market to be best, while those pushing residential air conditioning had their greatest gains in that field.

Henry Hofmann, of Gibson Refrigerator Sales Corp., declared that local sales of Gibson air conditioners to dealers are 250% better than last year and that over-all 1954 sales will "very definitely" be better than 1953.

He attributed the big jump in sales to the establishment of a Gibson factory branch here last year. The branch, he said, is able to work more closely with dealers and give them better service than was possible with an independent distributor.

MORE PROMOTION

He pointed out that whereas there was little if any Gibson promotion here last year, he has been very active in sending direct mail to dealers and to professional people.

Gibson units have a special appeal to professional people, particularly doctors and dentists, he explained, because of two features. One is the incorporation of an ozone lamp in the unit and the other is the upward discharge of cool air. The latter is particularly important, he said, because in small doctor and dentist offices, the patient's feet are usually raised and close to the air conditioner. (Concluded on Page 4, Col. 1)

Summer Marts Open In Chicago On June 21

A Few New Freezers and Interim Major Appliance Models May Be Introduced

CHICAGO—Next Monday (June 21), dealers and buyers from all parts of the country will start making the rounds of showrooms and exhibits at the American Furniture Mart and the Merchandise Mart as the Summer Home Furnishings Market gets under way for the regular two-week run.

No great quantity of new lines or new models of major appliances is expected to be displayed. However, visiting retailers probably will see a few interim models and some new freezers.

Reports from hotels on reservations indicate that attendance should be very good for at least the early days of the markets. As usual, downtown hotels are filled up for all or most of the first week.

However, several hotels anticipated. (Concluded on Back Page, Col. 2)

3 Dairies Negotiating FTC Settlements

WASHINGTON, D. C.—Three of the major ice cream manufacturers charged with unfair methods of competition (such as supplying refrigerated equipment at no cost) are negotiating settlements with the Federal Trade Commission, which brought the charges, it is reported here.

The three companies with whom settlements are being considered are Arden Farms Co. and Carnation Co., both of Los Angeles; and Foremost Dairies, Inc., Jacksonville, Fla.

(Concluded on Page 25, Col. 1)

Floor Stock Tax Refund Rules Issued by Govt.

WASHINGTON, D. C.—Regulations pertaining to floor stock tax refunds on appliances and electric light bulbs under the excise tax reduction act have been issued by the Internal Revenue Service.

The rules detail the steps manufacturers or importers must take to obtain refunds or tax credits on floor stock and what inventory data they need from retailers in order to support claims.

(No forms will be issued by the IRS for use by retailers in seeking refunds from manufacturers or distributors.)

Extracts from the regulations follow:

"(4) The term 'floor stocks' means:

(Concluded on Back Page, Col. 3)

Remington Names Mitchell As General Sales Manager

AUBURN, N. Y.—Remington Corp., manufacturer of room air conditioners, has announced the appointment of Frank A. Mitchell as general sales manager.

Mitchell joined Fedders-Quigan Corp. as sales manager of its unit air conditioner department in 1948. Four years later he became general sales manager of the appliance division of Servel, Inc., from which company he resigned to join Remington.



F. A. Mitchell

READING

THE NAME TO
REMEMBER FOR

QUALITY COPPER TUBING

FOR REFRIGERATION
& AIR CONDITIONING
EQUIPMENT



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TUBE CORPORATION

EMPIRE STATE BUILDING
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'Closeout' Sales Now Need License In Syracuse

SYRACUSE, N. Y. — Operators of "going out of business" sales are required to obtain licenses from the city clerk under a new city ordinance designed to protect the public from "fly-by-night" type of closeouts.

Under the law, the true name of the owner and the name of persons authorized to conduct the sale must be listed on applications for licenses. Applicants must provide an itemized list of merchandise to be sold, along with the source of the goods.

Unlisted merchandise is not to be sold, and the inventory must be revised at the end of each business day.

The ordinance requires the city clerk to investigate and to refuse a license to any firm which uses "untrue, deceptive, or misleading" advertising.

Maximum punishment for violation is a \$100 fine and 60 days in jail. A separate offense will be committed on each day of an alleged illegal sale.

In Air Conditioned Plant

DAYTON — Standard-Thomson Corp. has moved into its new, completely air conditioned plant on the edge of Vandalia. The building contains more than 160,000 sq. ft. of floor space.

Rainy Fourth Could Be Good News to 9

PITTSBURGH—Even if it rains here on the Fourth of July, nine local residents will be happy, if they predicted it.

That many 1½-ton room air conditioners will be given away to the persons who make the most accurate forecasts of temperature, humidity, and rainfall on Independence Day. Entries must be in by 5 p.m., June 30.

The contest is being promoted by Duquesne Light Co. and dealers in the territory. Brands to be received by the winners include Carrier, Fedders, Frigidaire, General Electric, Hotpoint, Kelvinator, Philco, RCA, and Westinghouse.

Hagan Succeeds Lowcher As Deepfreeze Area Mgr.

N. CHICAGO, Ill. — James T. Hagan has been appointed eastern regional manager of Deepfreeze Appliance Div., Motor Products Corp.

Hagan, who has been midwestern regional manager for Deepfreeze, will be responsible for sales from Virginia to Maine.

Hagan has been with Deepfreeze since 1948. Before his promotion to regional manager, he was manager of the Washington, D. C. district. In his new post he succeeds P. R. Lowcher, no longer with the company.



'King-Size' Window Conditioner for Atlanta Office Contrived from 3-hp. Air-Cooled Condensing Unit

ATLANTA—"Awfully big," the average street viewer might observe, with a glance up to an eighth floor window on the eastern side of Atlanta's Candler building.

What a viewer thinks might be the granddaddy of all window units actually is a 3-hp. air-cooled Chrysler Airtemp remote condensing unit, placed in the window—because that was the only place an air conditioner could be installed.

The problem was this: Randall Brothers Co. of Atlanta, Chrysler Airtemp dealer, was asked to install an air conditioning system in a suite of dental offices containing 752 sq. ft. of floor space. The calculated cooling load amounted to 2.2 tons. Room air conditioners lacked sufficient capacity. Available space, a narrow closet, measured 2½ by 6 ft. And the secondary use of the water required for air conditioning was not possible.

Another factor important to the installation was a 4 by 7-ft. window with an 18-in. ledge.

This was the solution: An Airtemp 3-hp. air-cooled condensing unit measuring 36 in. deep, 32½ in. wide, and 22 in. high was squeezed lengthwise through 24-in. doors into the narrow closet, tilted and set on the window sill and ledge. Angle irons at top and bottom of the condensing unit se-

cure it to the building walls.

The compressor and other vital parts accounting for about 75% of the weight rest upon the building wall. The unit overhangs the building by only 6 in., less than many room air conditioners. The back of the condensing unit extends only a few inches into the room.

An evaporator coil-blower unit was placed overhead on a channel iron support between two walls. Outside air is introduced into the blower unit, then circulated into ducts for distribution throughout the suite. The evaporator coil was installed directly over a sink, and the condensate piped into it.

The result pleasing to the dentist was: no valuable floor space required by the air conditioner; no supply or waste water problem; and an efficient means of ventilating the entire office when air conditioning is not actually required.

The condensing unit is sealed into the window in the same manner as a room air conditioner.

The unique application was designed by Robert D. Warren and W. M. Sims, Randall Brother sales engineers.

Kindred Named to Represent Utility Appliance in Southwest

LOS ANGELES—Utility Appliance Corp. here has appointed Thomas W. Kindred as southwestern sales representative for its Standard Duty Blowers Div.

Kindred received a degree in mechanical engineering from Southern Methodist university. He was formerly associated with Consolidated General Products in Houston, and with Minneapolis-Honeywell in Minneapolis.



Exclusive Perfection "Inside-the-Glass Line" feature helps you get profitable, multiple-sales in office building, hotel, motel and hospital markets. Write Perfection Stove Company, 7515-B Platt Avenue, Cleveland 4, Ohio.

Perfection
"INSIDE THE GLASS LINE"
ROOM AIR CONDITIONER



"SEE THE LINE
THAT GIVES YOU
THE MOST"

Now There is a
Tecumseh
COMPRESSOR FOR ANY

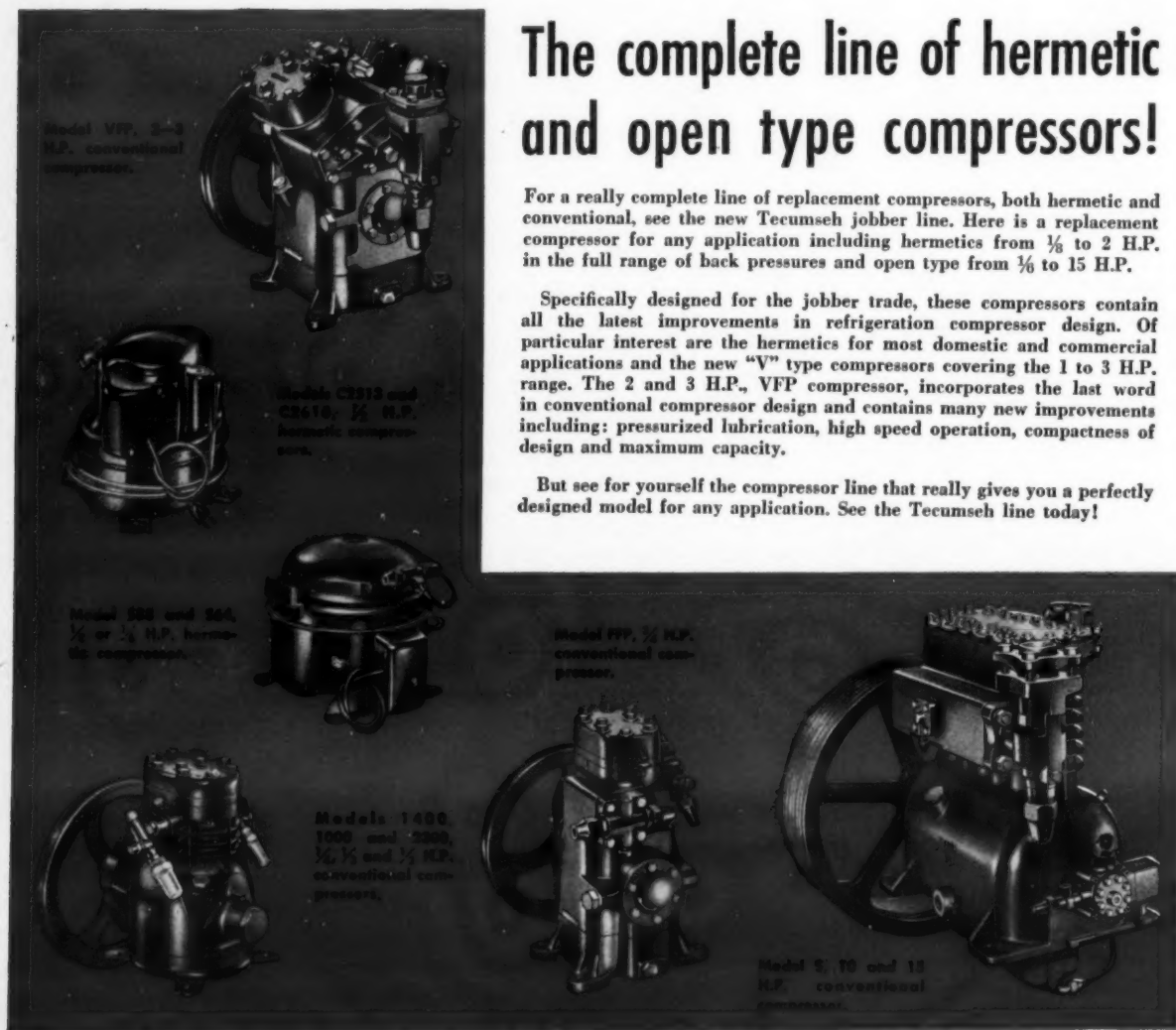
REFRIGERATION APPLICATION

The complete line of hermetic and open type compressors!

For a really complete line of replacement compressors, both hermetic and conventional, see the new Tecumseh jobber line. Here is a replacement compressor for any application including hermetics from ⅛ to 2 H.P. in the full range of back pressures and open type from ⅛ to 15 H.P.

Specifically designed for the jobber trade, these compressors contain all the latest improvements in refrigeration compressor design. Of particular interest are the hermetics for most domestic and commercial applications and the new "V" type compressors covering the 1 to 3 H.P. range. The 2 and 3 H.P., VFP compressor, incorporates the last word in conventional compressor design and contains many new improvements including: pressurized lubrication, high speed operation, compactness of design and maximum capacity.

But see for yourself the compressor line that really gives you a perfectly designed model for any application. See the Tecumseh line today!



For full information write:

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TECUMSEH, MICH.

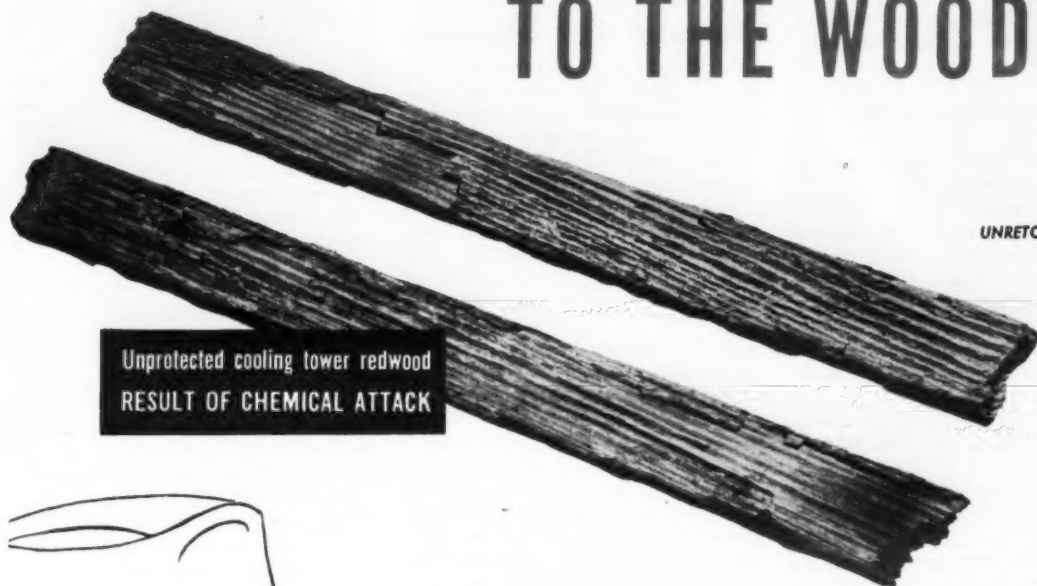
Company

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The world's largest
producer of Com-
pressors for the re-
frigeration industry.

TECUMSEH

LOOK WHAT CAN HAPPEN TO THE WOOD IN COOLING TOWERS



Unprotected cooling tower redwood
RESULT OF CHEMICAL ATTACK

UNRETOUCHED PHOTOGRAPHS



Unprotected cooling tower redwood
RESULT OF FUNGUS ATTACK

PRESSURE CREOSOTING ADDS YEARS OF LIFE TO HALSTEAD & MITCHELL COOLING TOWERS



UNTREATED ROUGH-CUT WOOD

is subject to immediate attack by fungus and marine parasites, leading to quick rotting. It is also subject to chemical deterioration from acids in water. Rough-cut wood is the best material for the wetted deck of a cooling tower because it "wets" more effectively than any other material . . . but unless it is protected, its life is apt to be short, indeed. All wood used in Halstead & Mitchell Cooling Towers is protected wood.

PRESSURE-CREOSOTED WOOD

adds years and years of life to your cooling tower. Why? Because creosote contains 162 elements toxic to fungus growth and parasites. It also makes wood more resistant to chemical attack. It is the most permanent and positive preservative used to treat timber, *tested by over 100 years of use*. Koppers Pressure-Creosoting provides deep penetration of the wood . . . not just surface protection.

The protection afforded means Halstead & Mitchell alone offers the 20-Year Guarantee on the Wetted Deck Surface against rotting due to fungus growth!

ONLY HALSTEAD & MITCHELL OFFERS THE

20-Year Guarantee!

on the wetted deck surface against rotting by fungus attack

NO EXTRA COST—CHECK PRICES TODAY

The extras in Halstead & Mitchell Cooling Towers are extras in service and life . . . not in price. Price-wise H & M Residential Cooling Towers have thrown open huge segments of the home and small building market to air-conditioning. Halstead &

Mitchell Industrial Cooling Towers are known nationally for initial and operating economies. And all Halstead & Mitchell Cooling Towers offer the exclusive 20-Year Guarantee against rotting by fungus attack.

FAMOUS HALSTEAD & MITCHELL QUALITY

The protection against rotting by fungus attack is only part of Halstead & Mitchell's quality story. When you buy, check . . . electrically welded sheet-steel cabinets with *individual* coatings of Vinsynite, Vinyl Zinc and chlorinated rubber, to add important years of life and eliminate electrolytic or galvanic action . . .

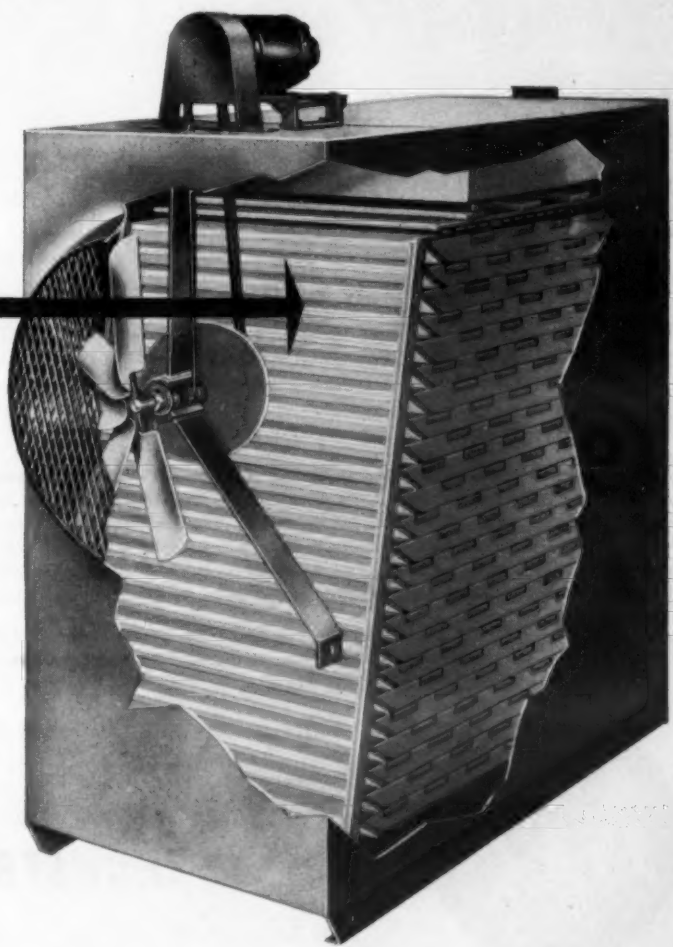
stainless steel fans and shafts . . . weather shielding against ice and rain for outdoor operation . . . gravity-type distributing pans which eliminate windage losses since atomizing by spray nozzle is unnecessary . . . Everdur Bolts throughout for ease of disassembly after years of service.

2 thru 100 Tons

At Leading Refrigeration & Heating Wholesalers Everywhere

OFFICES: BESSEMER BUILDING • PITTSBURGH 22, PA.

HM
Halstead & Mitchell



Chicago A. C. Dealers Expect Banner Season --

(Concluded from Page 1, Col. 4)

tioner. With the upward discharge of air, there is no cold blast on the patient's feet.

J. A. Bilheimer of Philco distributors was equally enthusiastic about room air conditioner sales. He said that Philco's sales so far this year were "substantially greater" than last year. In fact, he said, his company has already sold more units this year than it did in all of the 1953 season.

While Philco has not done any more promoting so far this year than it did last year, he said that a substantial increase in promotion is planned for this month.

On the other hand, Perry Winokur of Main Line Distributors, handling the Amana line, thought business was "lousy." April was way ahead of last year, he said, but May was far behind. He believed that, over-all, sales were going to drop this year, even if June were a good month.

"Dealers are frightened because air conditioners didn't sell last month," he declared. "Unless they get return privileges from the manufacturers, they are afraid they are going to get stuck."

"I could get exuberant over this hot weather," he chuckled, "and predict big things. We are going to have a good week, but I still think sales will be down for the year."

He averred that Main Line was doing more intensive promotion than last year and lining up more and better dealers, but he did not feel that this was going to result in greater sales.

BUSINESS BRISK FOR DISTRIBUTORS

C. C. Simpson, managing director of the Electric Association of Chicago, opined that business was brisk for the distributors, but he was not so sure that it was for the dealers. He thought that the cool Spring had kept some consumers from buying.

However, Larry McIlvain, of Northtown Refrigeration, Frigidaire dealer, didn't share Simpson's feelings. "Room unit sales in April and May were 35% ahead of last year," he asserted. "Some dealers might not have done so well, but it still looks good from our side of the street. Our sales will be well over last year even if it snows in July!"

McIlvain contends that people are more conditioned to air conditioning than last year and are not waiting for hot weather to make their purchase. He claimed that he is doing but little more promotion than last year, but there is a gradual improvement in his merchandising.

Package air conditioning unit sales, he said, were about the same as last year.

Walter McCarty of McCarty Brothers in suburban River Forest declared that commercial air conditioning sales up to the first of May were 33% ahead of last year, but at the end of May were only 21% ahead of last year.

The Typhoon dealer asserted that he was shooting for a 15% increase in business this year over last year. But he was skeptical whether or not he was going to make it.

"The cold weather in May will definitely affect June sales. I believe we will have quite a drop in sales this month, too," he said.

McCarty said that he expends most of his effort developing the commercial market, though he gets plenty of leads for residential air conditioning.

"We could spend 100% of our time following up leads for residential air conditioning, but business would drop 80%. There is a hell of a lot of interest in home cooling, but damn few are buying it."

Dave Forberg of Air Comfort Corp., which handles all three types of air conditioning, declared that business was booming in all departments. Residential and room air conditioning was much higher—about 25%—and commercial units were up somewhat—about 10%—over 1953.

"There is no indication of a change in the upward trend of air conditioning sales," he declared, "so long as air conditioners are sold rather than bought, if you

get what I mean. We don't have people coming into our store. Our men go out to the customer. We have a very active selling organization. We are promoting more than we did last year—particularly more newspaper advertising—but we haven't changed our theme any."

COMPANY SALES DOUBLED

Ken Bauer of Atomatic, Inc., which deals in residential and some commercial air conditioning, asserted that company sales are about double what they were last year and he expects them to continue at this rate throughout the season. He said the company has been using more promotion than last year, mostly direct mail but also increased newspaper advertising.

Going out and hustling, particularly in the residential air conditioning market, has pushed sales to date ahead of last year for M. S. Simon of Enterprise Heat & Power Co. here, which sells the Shana-Air residential and commercial unit. Sales so far are already ahead of all 1953, Simon asserted. He said that the company has intensified its promotion in every way, particularly in more advertising and putting more manpower in the field.

"May is usually a good sales month for air conditioning, but this year it has been the worst month since last December," mourned Robert Wineman of Murphy & Miller, Inc., York distributor. "We sold more units in January than we did in May."

But even so, he admitted, the year so far has been better than 1953 and he expects the full season to show higher sales than last year.

The company has provided a larger advertising budget this year, which will go mostly into direct mail, he said. The company has also expanded its wholesale operation, that is, selling more through dealers and less direct. Two of his dealers, he said, have embarked on house-to-house selling campaigns this year.

FIRM PUTS ON MORE SALESMEN

Another firm that is putting on more salesmen to get more business is Accurate Heating & Cooling Corp., a contracting firm that handles all three types of cooling equipment. Sales have been generally about the same as last year, Floyd Lilley commented, though residential air conditioning is doing a little bit better than in 1953. He said he expected sales for the year to be higher than last year but that "new people in the business will spread it a little thinner."

Refrigeration Systems, Inc., a Westinghouse dealer, finds room air conditioner and store cooler sales up about 40% over last year, according to Peter Razaitis, purchasing agent, thanks to its specialty selling crew out pushing doorbells.

Razaitis said the company has taken an entirely new approach to selling air conditioning this year. It went out and hired specialty salesmen who sold other lines during the winter, gave them training in room air conditioners, and put them out house to house. As a result, the company expects to do much better saleswise in 1954 than it did in 1953.

Heating & Cooling Products is adopting the same technique in the distributing field—more men out selling and more push, says Ed Radtke. The Unarco distributor also handles all three types of air conditioning. Sales so far have not been up to expectations, down somewhat from last year "but still good," says Radtke. "I expect that sales for the year will be higher than 1953. We'll end up all right."

Airtemp distributor McGuan of James B. Clow & Sons, declared that he has been disappointed in sales so far this year. They are about even with 1953, he said, but it looks as though we aren't going

to equal last year's sales unless we get some warm weather.

The company, he said, is a new Airtemp distributor, but is putting more promotional effort behind the line than it has behind any other air conditioning equipment it has handled before.

COMMERCIAL SALES TOP LAST YEAR

Al Weil of Refrigeration Maintenance Corp., a Carrier dealer, finds commercial sales better than last year and definitely expects a better all around year. Weil said his company is just getting into the residential air conditioning field and finds a great deal of consumer interest in it.

Lee Kulp of Empire Cooler Service, which both rents and sells room air conditioners, said that his firm has booked about twice as much business as last year through May. He tempered his predictions for the year by pointing out that "the weather has a lot to do with it, but I think sales will be higher than last year."

Ralph Bates of RCA Victor Corp. also doubled his distribution of room air conditioners so far this year. He, too, thought sales for the year would be higher than last as a result of more time, effort, and money spent on promotion this year.

Admiral dealer John Ruff of Standard Air Service has enjoyed improved room air conditioner sales this year but fears that sales for the season may not be what they should for him. He explained that he has temporarily lost the services of his crackerjack sales manager through illness right at the height of the season.

E. J. Conley, UsAirco distributor, reported store cooler and residential sales 50% above last year, but room cooler sales were down. He thinks that dollar volume for the year may be higher than in 1953, but he fears that there may be a leveling off in store cooler sales.

Want to
ring the
bell on
FREEZER
SALES
for '54?

...come to
Space 17-R
at the
Furniture Mart..

See
Revco!


NEW

MARCO

LOW COST

Permanent
Split Capacitor

MOTOR



- Requiring 67% less running current
- yet retains all benefits of Marco Shaded Pole Motors

1/20 to 1/3 horsepower
5 1/2" diameter

Never before have so many desirable characteristics been built into a motor at so low a price to you!

FIRST: The new design Marco Permanent Split Capacitor Motors give you all the advantages you've enjoyed in Marco Shaded Pole Motors—absence of any troublesome moving parts, switches or relays—provision for 1, 2 or 3 speeds in windings or speed control by external rheostat—the famous Marco dependability and long life.

PLUS: (1) vertical, horizontal or inclined mounting, due to extra-large bearing surfaces, Nylon thrust surfaces and improved oil recirculation system; (2) Quietness far beyond the famous "Hushed" Marco shaded pole motors; and (3) most important, equipment can be designed for lower running current to meet the proposed National Electrical Code (for window air conditioners) in 1/20 to 1/3 H.P. motors.

FINALLY: This higher electrical efficiency and power factor means: (1) lower power consumption; (2) reduced external wiring requirements; and (3) cooler operation.

WRITE TODAY FOR COMPLETE DATA.

TYPICAL PERFORMANCE COMPARISON

	Permanent Split Cap.	Shaded Pole
H.P.	1/12	1/12
R.P.M.	1050	1050
Volts	115	115
Amps.	1.20	3.50
Watts	121	204
Eff.	51.2	30.4
P.F.	87.8	50.8
App. Eff.	45.0	15.4

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Quality Motors
"tailored" to your
product at
ready-made prices.



Kelvinator Adds Deluxe 30-In. Range

DETROIT—Kelvinator has introduced a new deluxe 30-in. electric range with "advanced styling" as an addition to its basic line of eight 30 and 40-in. models for 1954.

W. E. Saylor, range sales manager, said chrome is used on the ER-364 for the entire backguard and the panel backing up the switch knobs. The glass panel on the backguard also has been redesigned.

The new range has a giant oven, top light, built-in clock, automatic oven control and minute timer, "picto-heat" switches, and a full-width storage drawer.

Saylor said the new range also has these features:

Bowl-type porcelain drip-pans, deep-drawn to hold boil-overs, that are self-ejecting for easier cleaning.

"Picto-heat" controls, with easy-to-read markings which show the homemaker at a glance which part of the surface unit is in use, and at what intensity.

A full-width drawer below the oven door, for an ample storage compartment.

The family-size oven, measuring 23 by 16½ by 16½ in. in size, can easily bake 10 loaves of bread at a time, Saylor pointed out. It is finished in heavy, durable black porcelain. Excess cooking vapors pass through an oven vent in a rear surface unit.

Suggested retail price of the new range is \$232.50.

Recold Opens Warehouses In Philadelphia, St. Louis

LOS ANGELES—Refrigeration Engineering, Inc., manufacturer of refrigeration and air conditioning equipment, has established new warehouse facilities in Philadelphia and St. Louis.

In making the announcement, Hy Jarvis, president of Recold, pointed out that the rapidly growing demand for Recold equipment in the midwest and the east has made it necessary to speed up delivery on both Recold air conditioning and refrigeration equipment.



Exclusive Perfection "Inside-the-Glass Line" feature helps you get profitable, multiple-sales in office building, hotel, motel and hospital markets. Write Perfection Stove Company, 7515-B Platt Avenue, Cleveland 4, Ohio.

Perfection
"INSIDE THE GLASS LINE"
ROOM AIR CONDITIONER

750 Definitions of Technical Words, Terms, Phrases Used by Industry Provided In Proposed ASRE Standard

NEW YORK CITY—Some 750 definitions of words, terms, and phrases used in air conditioning and refrigeration are contained in the Proposed American Standard of Definitions published recently by the American Society of Refrigerating Engineers.

It is hoped that the new standards, when finally adopted by ASRE and the American Standards Association, will "bring about a more logical and consistent use of refrigeration terminology; serve as an authority on word meaning in specification and allied writing; compare meanings of closely related words; be a vocabulary source of technical writing; provide a classification system which may be used in other aspects of refrigeration work."

This standard forms Part D of the Proposed American Standard Refrigeration Nomenclature for Texts and Drawings, ASA Y53, of which ASRE is the sponsor. Parts A and B, Graphical Symbols and Abbreviations, and Part C, Letter Symbols, were printed and distributed four and three years ago, respectively.

Work on Part D, Definitions, was begun about 10 years ago, just previous to the organization of American Standard Committee ASA Y53, and since that time has been under discussion and revision

of the Subcommittee on Definitions which, during that period, has had four chairmen. The Subcommittee that finally produced the proposed standard consisted of Prof. Frederick J. Reed, Duke university, chairman; Paul R. Achenbach, U. S. Bureau of Standards; and Prof. Donald J. Renwick, Michigan State college.

The report has been approved by the ASRE Standards Committee and has been submitted to the ASA Y53 Sectional Committee, Gayle B. Priester, Consolidated Gas, Electric Light and Power Co., Baltimore, chairman. Following approval by that body, it will be submitted to ASRE Council and ASA Standards Council for final approval.

Among the sources drawn upon for the compilation of these definitions were: A glossary of some 600 words prepared by previous ASRE committees and published from time to time in ASRE Data Books; definitions used in various ASRE standards and codes; definitions given in the chapter on terminology in the 1953 edition of the ASHVE Guide; publications of various manufacturers trade associations; and, finally, many words and terms suggested by a number of various sources, including some of the committee members.

Appliance Sales 50% Better Than 1953 Seen for 1960 by Frigidaire

DAYTON—The major appliance business can well be 50% greater in 1960 than 1953, with national retail sales approaching \$5 billion, R. H. Huston, assistant appliance sales manager of Frigidaire Div. of General Motors, told a retail sales conference here.

Comparing 1960 with 1953, Huston predicted sales of refrigerators would be up about 34%, food freezers 55%, electric ranges 49%, automatic washers 22%, and clothes dryers 192%.

Earlier, H. J. Miller, Frigidaire appliance sales manager, described the changing complexion of the

appliance business, saying that products other than refrigerators are more than five times as important as before World War II.

For every 100 refrigerators turned out by the industry, there were 170 "other major appliances" manufactured in 1953, compared with 29 in 1940, he explained.

Looking ahead to 1956-57, W. F. Switzer, commercial and air conditioning sales manager, forecast an increase in industry retail sales volume of room air conditioners of 70% over 1953, with sales of year-round air conditioning units due to rise 158%.

R-B-M Adds 31,000 Ft. For Manufacturing

LOGANSPOUT, Ind. — R-B-M Div., Essex Wire Corp., recently completed an additional 31,000 sq. ft. for manufacturing purposes.

In September, 1951, 70,000 sq. ft. for manufacturing, 5,000 sq. ft. for engineering model shop, and 30,000 sq. ft. for general offices were added.

With the latest addition, R-B-M has over 200,000 sq. ft. devoted to the manufacturing of automotive electrical components, industrial and appliance controls, electronic relays, motor starting relays, and thermal overload protectors.

White Joins Bryant Heater As Engineering Coordinator

CLEVELAND—K. T. Davis, director of engineering, Bryant Heater Div., recently announced the appointment of Glen A. White as the newest member of Bryant's engineering staff.

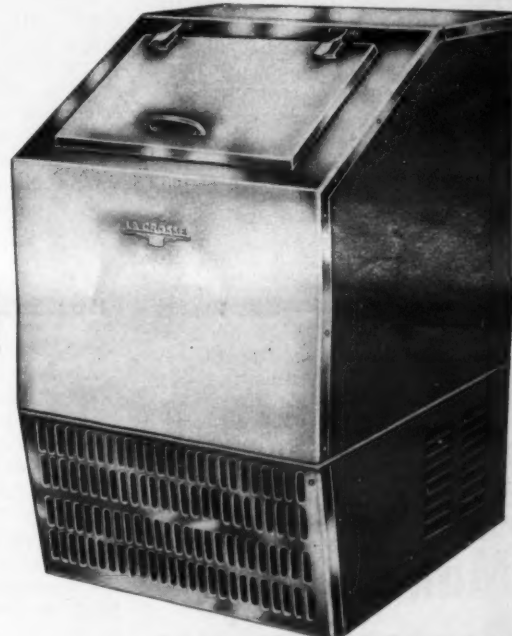
White comes to Bryant from Eureka Williams Co. where he had formerly been chief research engineer.

As engineering coordinator, his principal duties with Bryant will lie in the field of administration within the department and liaison with production and sales, it was indicated.

MINIMUM OF GADGETS . . . GET CRYSTAL CLEAR CYLINDRICAL KUBES WITH THE "LA CROSSE" KUBE KING

Automatic Ice Machine

Here's "sell appeal" for bigger profits. The La Crosse Kube King tops them all on the "most wanted" list making sales easier and servicing a pleasure. Sparkling, clear, clean Kubes without holes . . . production capacity of approx. 2,000 Kubes every 24 hours . . . storage bin holds approx. 75 lbs. . . uses only 5 qts. of water per freezing cycle. Removable stainless steel front panel, condensing unit and compressor pulls out for fast, easy servicing. No pumps or gadgets with La Crosse "Profit Designed" Kube King.



ANOTHER LA CROSSE FIRST

ADD-A-UNIT DRAINBOARDS

NOW, YOU CAN SELL 14 PROFITABLE DRAINBOARD COMBINATIONS . . . WITH AN INVENTORY OF ONLY 4 STANDARD LA CROSSE UNITS!!

Yes, with a 5' and 6' center tank Drainboard and the new La Crosse Cocktail Unit and Ice Chest you can install a "Tailor-made" Drainboard right from stock. The new, improved La Crosse Drainboards feature . . . all metal construction . . . zinc grip, paint grip metal . . . aluminum pipe legs . . . leveling screw jacks.

WRITE TODAY . . . for complete ADD-A-UNIT literature. There's greater profit ready for you . . . don't delay . . . write now!

La Crosse Cooler announces the appointment of:
REMA REFRIGERATION MART, LTD.
2025 ADDINGTON AVE.,
MONTREAL, QUEBEC, CANADA

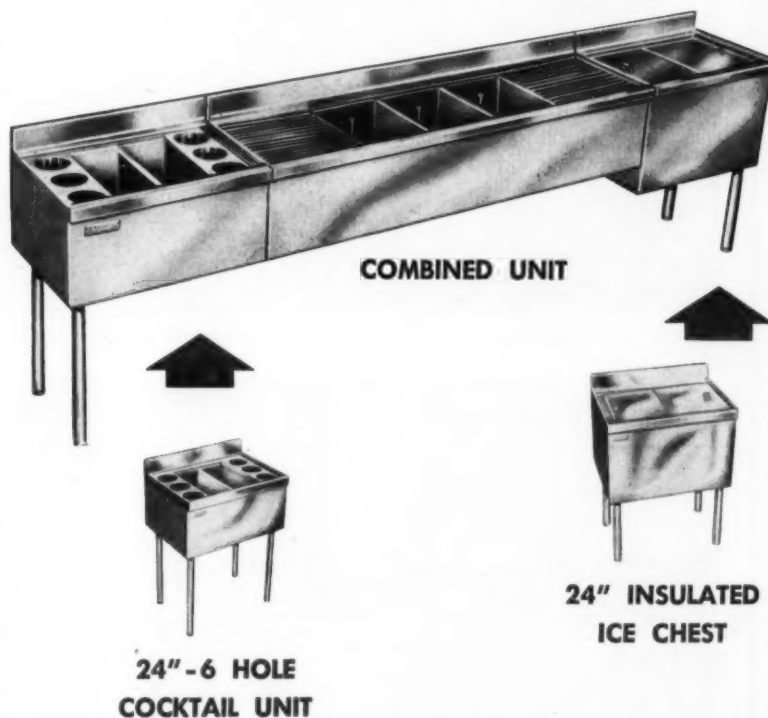
as the La Crosse Representative in the Eastern Provinces of Canada.

WRITE TODAY . . . FOR COMPLETE INFORMATION

LA CROSSE
COOLER CO.

FACTORY AND GEN'L OFFICES: 3000 LOSEY BLVD.,
LA CROSSE, WISCONSIN

Export Office: 80 Broad St., New York, Cable Address: Eximport.



OTHER LA CROSSE "PROFIT PROVEN" PRODUCTS

WALK-INS — REACH-INS — BOTTLE COOLERS — DIRECT DRAWS

SPECIALTY SELLING METHODS

'Profit Sharing' Plan for Customers Plus Surveys of Long-Time Users Pay Dividends

TUCSON, Ariz.—A "profit sharing" plan for consumers and a "replacement sale" program for its salesmen keep Grabe Electric Co. here well supplied with appliance prospects.

Under the former scheme, the large appliance dealership pays clubwomen and others for the names of prospects mailed in on cards if a sale is completed within 30 days. The latter program sets up a method for selling new appliances to old customers.

The profit sharing plan is based on the fact that many women are more interested in obtaining funds for clubs or charities than for themselves, it was explained.

How Plan Works

It works this way: Bruce Hannah and Frank Chipman, owner and sales manager, respectively, mailed out thousands of booklets to the memberships of all women's clubs and associations, church groups, sororities, etc., in the desert city.

Included in each booklet are eight postage-free, pre-addressed "prospect cards" and a complete set of instructions for their use. Women receiving the cards are encouraged to fill out the printed form on the back of each card.

This provides space for a prospect's name, address, and occupation, and the best time to call; lists a number of appliances, which the sender may check off to indicate the type in which the prospect is interested; and a place to indicate whether or not the sender's name may be used in approaching the prospect.

Space is also provided at the bottom of the card for the name, address, and club or charity of the "bird dog."

Instead of requiring that women

bring the cards in, Grabe's insists that they be mailed. In the long run, this has proven most expeditious, according to Chipman.

An explanation printed on the inside cover of the booklet is headlined: "Grabe's will pay for the prospects you mail in on these cards." It is pointed out that a cash payment will be made to the sender's club or favorite charity for appliances sold through the plan.

Cash payment is to be made within two weeks after the sale. If a quantity purchase of any one product is made, the maximum payment will be \$5 for that prospect. However, if two or more different products are purchased, the sender receives the proper amount for each product purchased.

One paragraph points out that no payment can be made on prospects submitted who are not sold within one month or who are currently registered in Grabe's prospect file.

'Double Dividend'

Another explains a "double dividend" arrangement. This paragraph states, in part: "If you wish to purchase one of our appliances yourself within 5 days after receiving dividend, you may return the cash payment and ask for double credit on the appliance you are purchasing."

The latter offer was included, according to Chipman, because similar booklets are sent regularly to a large percentage of the 15,000 housewives whose names are recorded in the store's active-customer file.

A schedule of cash payments that will be made under the plan is printed on the back inside cover of the booklet. This shows that the amount of the payments depends on the type and price of appliance sold.

For example, for the sale of a refrigerator or freezer over \$260, the payment is \$5; from \$150 to \$260, it is \$3; and under \$150, it is \$1.

Similarly, payments are shown for home laundry equipment; radio, phonograph, or TV set; vacuum cleaner; range; dishwasher, sink, or disposer; water heater; air conditioner or cooling unit; and electric housewares.

On the back of the booklet are listed eight "reasons why you can buy from and recommend Grabe's."

On both prospect and service calls, the Grabe representative leaves a booklet, after first asking the housewife whether she has a favorite charity or is an active member of a woman's club. Since practically all answer affirmatively, the ideal opportunity is created to hand the housewife the booklet and explain the plan.

Salesmen Get Cards

Prospect cards as they arrive at Grabe Electric are divided among the seven outside salesmen of the firm and followed up within one week. In most cases, it has been found, the housewife is willing to allow her name to be used in calling on prospects, and this makes possible a much better "entry" percentage.

In addition to this plan, Grabe Electric has set up a highly successful "door-opener" in the form of a "survey" being carried out by its salesmen in selected zones throughout the city.

For more than 26 years, the company has maintained "job envelopes" on every appliance installation. Each envelope contains a copy of the original sale contract, records of all service calls, customer comments, etc. There are more than 15,000 of these in 50 file drawers at Grabe Electric.

Since February, Grabe's salesmen have been ringing doorbells of customers who purchased ap-

I believe		Prospect's Name
Address		is a good prospect for the appliance checked.
Air Conditioning	Occupation	
Refrigerator		
Freezer		
Washer	Best time to call	
Ironer		
Dryer	You (may) use my recommendation.	
Radio	You (may not)	
Phonograph		
Television	It is understood that I am to be compensated according to your offer if this prospect purchases the indicated appliance from you, within 30 days.	
Vacuum Cleaner		
Range, Gas		
Range, Electric	My Name	
Water Heater	My Address	
Dishwasher		
Disposal	Club or Charity	
Appliance		

PROSPECT card used by Grabe Electric Co. turns up active lists which seven outside salesmen convert into many orders.

pliances as long ago as 20 years. The salesmen ask permission to inspect the old appliance to obtain information for making up a parts inventory and planning company service operations for the near future.

Since blank forms are carried on which all data concerning the old appliance is jotted down, the salesman usually is able to get in and inspect the outmoded appliance.

Once in the kitchen, where he can point out the difference between new appliances and the obsolescent ones still in use, and with goodwill already a proven fact through the service record,

the salesman stands a much better chance of making a replacement sale, Chipman said.

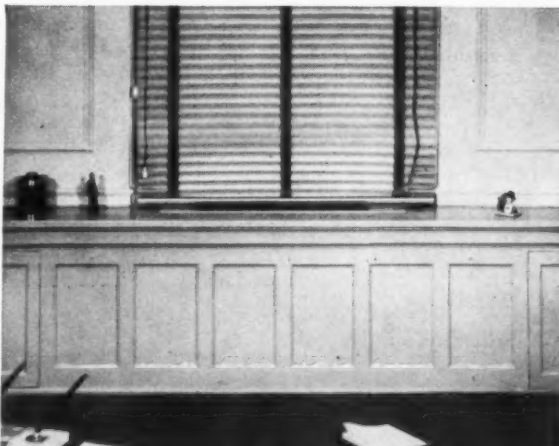
"It's a perfect entry," he declared. "Once the salesman has scribbled down details on the old appliance in use, he often finds that the housewife has been intending to look at new appliances but hasn't gotten around to it as yet."

"We think that follow-ups on this huge backlog of previously-sold customers who haven't replaced their appliances in a decade or more, in combination with the profit sharing plan, will keep us supplied with prospects for a long time."

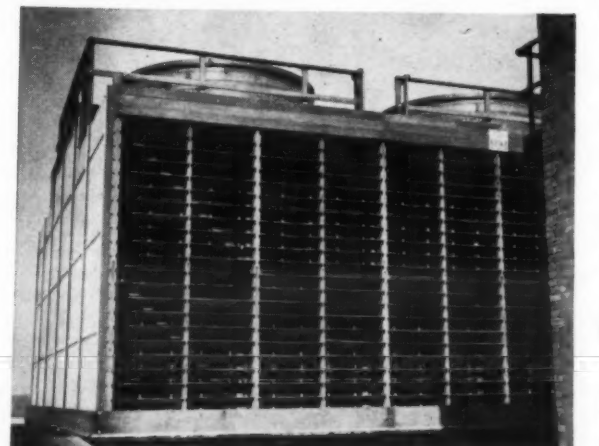
14-story Delaware Trust



Delaware Trust Building in Wilmington now offers air conditioning throughout its 320,000 sq. ft. of rentable space.



Individual "Weathermaster" units are designed to maintain 80°DB, 50% RH, when outside conditions are 95°DB, 78WB°.



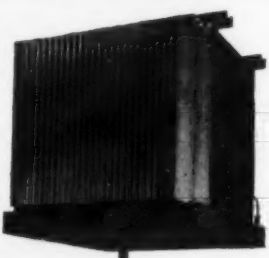
Close-up of one of the two Marley cooling towers which serve the expanded air conditioning installation.

Wanted: Manufacturers' Representatives

Write, wire or 'phone, outlining territory and products presently handled.

TRUE MFG. CO.

2905 PINE ST., ST. LOUIS, MISSOURI
JEfferson 5-6700



KRACK CEC EVAPORATIVE CONDENSER Ceiling or Floor Mount For Indoor or Outdoor Operation

New, low priced, trouble free evaporative condenser in 3, 5, 7.5, and 10 tons, nominal ratings. All prime surface, electro tin-plated copper coil with exceptionally high ratio of surface per ton. Hot dip galvanized three face eliminators. Circuit adaptors available for 16 circuit combinations to match multiple machine installations.

Cast bronze submersible pump to insure trouble-free operation. Self-cleaning nozzles. Mastic coated interior. Multiple circuits standard. Floor stands optional. Adjustable bleeder line.

Better Built — By Krack

Better Buy — Buy Krack

For more information, write for KRACK Bulletin 61454.

REFRIGERATION APPLIANCES, INC. 923 W. LAKE STREET
CHICAGO 7, ILLINOIS

Pioneer Manufacturers of Refrigeration and Air Conditioning Equipment

UNIT COOLERS . . LOW TEMPERATURE UNITS . . COMFORT
CONDITIONERS . . AIR CONDITIONING COILS . . EVA-
PORATIVE CONDENSERS . . COOLING TOWERS . . GRAVITY
COILS . . AIR COOLED CONDENSERS.

House Bill Would Protect Nation's Dealers from Overloading, Tie-Ins

WASHINGTON, D. C.—There oughta be a law to prevent manufacturers and distributors from loading retail dealers with goods they don't want or don't order and to prevent them from canceling a dealer's franchise if he doesn't accept goods he doesn't need.

That is the opinion of Representative Jamie L. Whitten, Mississippi Democrat, who introduced a bill to that effect in the House of Representatives. The bill has been sent to the House Judiciary Committee.

Labeled H.R. 9354, it would make it an unfair trade practice "for any person engaged in commerce in connection with the granting of any franchise or distribution right to demand any contract or other agreement with any retail dealer requiring such dealer to accept goods, wares, machinery, supplies, or other commodities not ordered by such retail dealer."

It would be illegal for any such person to withdraw "any franchise or distribution right of any retail dealer because of failure to order or failure to accept without order any goods, wares, machinery, supplies, or other commodities in excess of need as determined by such retail dealers."

While conceding that no major manufacturer deliberately sets out

to ruin his retailers, Whitten said, "Judging by the past, should conditions get tight to the point where it becomes a question as to who is going to be pressed financially, under the type of dealer contract which most local distributors have, the man placed in financial straits first is going to be the retail dealer or distributor, and this will be brought about by the manufacturer."

"Judging by the past, (the retailer) will accept large units, with little or no market in order to get what he thinks he can sell. All of this is part of a package delivery demanded by the manufacturer."

Whitten asserted that his bill "will give some degree of protection to retail dealers and distributors. It will let those in an industry somewhat ride together as against the manufacturer being able to squeeze every dollar out of the distributor."

Thor Names New Distributor

CHICAGO — Thor Corp. announces the appointment of a new distributor for the Kansas-Missouri area.

Motor Radio Co., Inc., Kansas City, Mo., replaces Columbian Electrical Co. of the same city, as Thor distributor in the area.

Til July 31

Whirlpool Cuts Price of Automatic Washer to \$188

ST. JOSEPH, Mich.—Whirlpool Corp. announced recently a reduction of \$41.95, from \$229.95 to \$188, in the suggested retail price of its 1954 automatic washer model AA-40.

The new price, which will be in effect through July 31 only, is the lowest at which a Whirlpool automatic washer has ever been offered, according to John A. Hurley, Whirlpool vice president.

Hurley said, "Frankly, we are making this drastic price reduction in our lowest priced 1954 automatic washer to meet an unusual marketing condition. With 1954 nearly half over, the market is still glutted with competitive 1953 merchandise which is being sold at distress prices."

Bendix Promotes Sala To Dryer Sales Manager

CINCINNATI—Earl V. Sala, Jr., has been named dryer sales manager for Bendix Home Appliances Div. of Avco Mfg. Corp.

J. L. Armstrong, general sales manager for Bendix, announced Sala's promotion from zone sales manager for Cleveland, Dayton, Youngstown, and Columbus to the national post. The position has been vacant since last July.

HOUSEHOLD REFRIGERATION



ARCHWAY LEADS TO "Economy Appliance Department" where dealer handles all trade-ins. Chief markets for these items are landlords and low income families. Sign over archway has proved a major sales asset.

'Economy Appliance Department' Helps Sell Trade-Ins to Landlords, Low Income Groups

COLORADO SPRINGS, Colo.—Setting up an entirely separate "economy appliance department," and promoting it vigorously to landlords and low-income groups, has largely eliminated the trade-in resale problem for William Jordan, owner of Jordan's Home Appliances here.

Operating one of the largest showrooms in the Rocky Mountain area, Jordan feels that reconditioned appliances detract substantially from showroom appearance. Consequently, for more than a decade, he has carefully kept the trade-in department removed from the store's new-appliance sales floor.

The economy appliance department consists of two rooms, reached by an archway at the left-rear corner of Jordan's 90 by 75-ft. showroom. The first room is devoted to television sets, radios, radio-phonograph combinations. The second contains refrigerators, ranges, washing machines, automatic laundry equipment, and home freezers.

Each trade-in appliance, on receipt, is thoroughly inspected, taken apart for mechanical and appearance reconditioning if necessary, and then neatly departmentalized in the appliance trade-in room.

Refrigerators, for example, are, for the most part, sold "as is" since only a minor percentage of them need complete sanding down, priming, and reconditioning. All are accompanied with a guarantee, the length of which is determined by the price.

Displayed against a flat green wall, and all kept operating, the trade-in boxes sell swiftly to owners of motels, mountain lodges, converted apartment houses, etc., who use them in furnishing space for the thousands of tourists who fill up the Colorado Springs area each summer.

Whenever the trade-in department becomes overloaded through the winter months, Jordan uses the telephone or sends a salesman

around to visit owners of furnished apartments and houses. In addition, classified want ads are used to appeal to low-income groups, to sell washing machines, television, and refrigerators.

The identifying sign in the showroom itself has been one of the major sales assets, according to Verne Abbott, a Jordan salesman. After a new appliance has been sold, salesmen suggest that in the event the family buys a mountain lodge or cabin, or intends to convert an over-sized house into apartments that here is the "appliance answer."

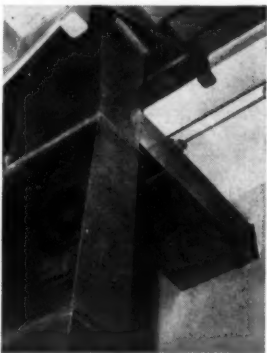
During 1953, Jordan's Home Appliances reportedly was able to dispose of 85% of its appliance trade-ins at a profit.

Building goes from partial to full air conditioning

Many existing office buildings now being air conditioned

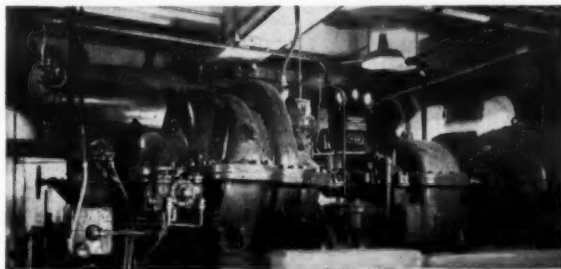
Today, the benefits of air conditioning on efficiency and morale are well known throughout the business world—and office space offering this advantage has consequently become more valuable. This fact led management of the partially air conditioned Delaware Trust Building in Wilmington, Delaware, to extend the comfort of temperature and humidity control to the entire building. A bank, restaurant and 15 shops occupy the lower floors, while 80 firms rent space on the upper floors.

In 1953, a new chilled-water system was installed, consisting of two 500-ton Worthington centrifugal compressors that use "Freon-11" trichloromonofluoromethane refrigerant. These compressors are linked to a Carrier "Weathermaster" system, with individual units in each room. Marley cooling towers are also included in the equipment.



High-pressure air conduits installed in fire stairways.

to attract desirable tenants, and air conditioning is becoming more widespread each year.



One of the two 500-ton Worthington centrifugal compressors. Operation is smooth, efficient with "Freon-11" refrigerant.

HOT WEATHER HELPS YOU SELL

Point out the advantages of air conditioning, particularly during hot, humid weather. And when you come to equipment, promote customer satisfaction by recommending units that operate with "Freon" fluorinated hydrocarbon refrigerants—nonflammable, nonexplosive, virtually nontoxic. Their purity and uniformity contribute to efficient machine operation. For more information on "Freon" Safe Refrigerants, send for illustrated brochure. E. I. du Pont de Nemours & Co. (Inc.), "Kinetic" Chemicals Div., Wilmington 98, Del.

ORIGINAL SYSTEM USES "FREON-12" REFRIGERANT

The ground-floor shops and bank area of the building have been air conditioned since 1940. Here a 150-ton Carbondale unit using "Freon-12" dichlorodifluoromethane makes working and shopping conditions pleasant during hot summer months. After 14 years, this system is still dependably serving its section of the building.

You can do a profitable business supplying full or partial air conditioning to office buildings. Management people know they have to be competitive



FREON

SAFE REFRIGERANTS

*Freon is Du Pont's registered trade-mark for its fluorinated hydrocarbon refrigerants



BETTER THINGS FOR BETTER LIVING... THROUGH CHEMISTRY

LARKIN

means good looks



LARKIN HUMI-TEMP UNIT

For clean, smart lines, satin-smooth finish, harmonious color and overall good looks—Larkin leads. Behind this beauty is the quality and performance that keeps Larkin out in front!

Manufacturers of the original Cross-Fin Coil
• Humi-Temp Units • Frost-O-Trol Hot Gas Defroster • Evaporative Condensers • Cooling Towers • Air Conditioning Units and Coils
• Direct Expansion Water Coolers • Heat Exchangers • Disseminator Pans.

WATCHDOG OF THE NATION'S FOOD SUPPLY



LARKIN COILS

519 MEMORIAL DR., S.E. - ATLANTA, GA.

add-a-bin

ICE STORAGE UNITS for SCOTSMAN CUBERS AND FLAKERS

storing 450 to 2,000 lbs.

Machines can be mounted on or next to the bin.

N. Silverman, 488 7th Ave., New York

LA 4-2640

Also bins for Ajax and other makes

New Duke University Bldg. Completely Air Conditioned

DURHAM, N. C.—Duke university's new classroom-administration building, a four-story structure, has been completely air conditioned.

The \$1,758,000 structure, second major building made possible by Duke's \$12,000,000 development program, was called for in the original plans of the campus drawn up a quarter century ago. It is the final unit of the main quadrangle on the Duke West Campus.

The spacious building houses 35 administrative departments, 14 class and seminar rooms, and 33 faculty offices.

Balch Named Exec. V.P. Of Union Asbestos Co.

CHICAGO—John H. Balch has been named executive vice president of the Union Asbestos & Rubber Co., it was announced recently by Edwin E. Hokin, president.

Balch, who joined Unarco in 1936 as auditor, has been a member of the board of directors since 1938, when he was also elected secretary of the company. Balch was named a Unarco vice president in 1946.

Born in Iowa, he served in the Navy in World War I, and following the war attended Northwestern university.

INSIDE DOPE

Learn to live and laugh—
Thus delay your epitaph

By **GEORGE F. TAUBENECK**

(Concluded from Page 1, Col. 1)

We should accept the fact that one out of one dies of something—and get on with the business of living.—DR. HERBERT RATNER.

The commonest fallacy among women is that simply having children makes one a mother—which is as absurd as believing that having a piano makes one a musician.—SIDNEY J. HARRIS.

There are almost as many accidents in the home as there are in all other places combined—on the highway, in industry, and out in public. Each year at least 29,000 people lose their lives, more than four million are injured, and over 100,000 are permanently disabled—all in that cozy little booby trap we call home.—Northwestern Bell.

The real secret of American productivity is that American society is imbued with desirability, the rightness, the morality of production. . . . But in Britain, if any moral feeling at all survives about economic matters, it is usually a

vague suspicion that economic success is reprehensible and unworthy. From this difference in attitudes everything else follows.—London Economist.

Quite aside from the tyranny involved, no government—Communist, Socialist, or any other kind—is a source of wealth. Everything produced is produced by the people. Everything the gov't says it will give the people, it must first take from the people. This is as true in America as in Russia or any other place.—HENRY J. TAYLOR.

Human Interest

Nearly everybody delights in slipping-on-banana-peel humor.

"That which belittles the importance of things which The Pompous take seriously always is good for a laugh," declares psychiatrist Dr. Karl Menninger. "And strait-laced people sometimes get the biggest guffaws out of off-color stories."

"We like to be mildly shocked," he avers, "because such release offers us a momentary reprieve from our inhibitions."

Guessing Game

After assiduously studying the stock market list, Robert D. Tucker, of Los Angeles, comes up with these whimsies about companies and the businesses they might be engaged in:

American Can: Outhouses.
American Loco.: Sanatorium.
American Smelt: Fishing.
Anchor Hocking Glass: Diamonds.
Bath Iron: Old-fashioned tubs.
A. M. Byers: Purchasing agents (mornings only).
Carrier Corp.: Pigeons.
Corn Products: Radio and television gags.
Eaton Mfg.: Knives and forks.
Ekco Products: Sound equipment for amateur actresses.
Hayes Industries: Los Angeles "smog" manufacturer.
Howe Sound: Hearing aids.
Koppers Co.: Detective agency.

Lincoln's Gettysburg Problem

Quoting Alexander Woolcott:

"I think it can be proved beyond all doubt that of the 15,000 present (at Gettysburg, Nov. 19, 1863) only an inconsiderable few heard what Lincoln said.

"It is easy to see how this must have been so. Even the most inexperienced playwright is careful to postpone past the first 10 minutes any crucial line of his dialog, because there is an arc of attention; it takes a bit of time to establish that arc's trajectory.

"Mr. Lincoln spoke not only in the open air but to a multitude of which many, having just escaped from the trap of a 2-hour discourse (by Edward Everett) were, for reasons you are free to surmise, moving anxiously toward the exits. Some of these, as it dawned on them that the President had risen, turned and started shoving their way back. So it was not only to a huge crowd in the open that he spoke, but to one that was not even stationary.

"He would have had to talk for at least 5 minutes before even those within reach of his voice could really have begun to listen. But the address is made up of 10 sentences. It has only 272 words. After he had been speaking for 2 minutes and 35 seconds, Mr. Lincoln sat down. Most of those present could not have taken in a word he said."

Out of Our Mailbag

E. I. du Pont de Nemours & Co. Wilmington 98, Del.

Editor:

Your editorial "No Rust for the

Wary" spells out in forceful language one of the most serious hazards faced by the room air conditioning industry today. We heartily support this editorial—up to the point of your suggestion. There is a better, more practical and less expensive answer with organic finishes.

Cabinet type washing machines probably come nearer to equalizing the exposure conditions expected of a room air conditioning unit than any other appliance. But even washers don't have to stand exterior exposure and moisture condensation on the interior.

Washing machine manufacturers have recognized the more severe exposure conditions encountered with a cabinet type unit. They have taken steps to substantially upgrade the moisture resistance of their finishes by:

1. Adopting epon type primers which have far greater corrosion resistance than conventional primers.

2. Adopting flowcoat application of the primer to insure that every square inch of metal, including all edges and cut out holes, are adequately protected.

Many of the room air conditioning manufacturers have wisely followed this same procedure. Others have gone part way, but are not using the most corrosion-resistant primers available. Unfortunately, some have not done either.

Porcelain could certainly provide very adequate protection, but it would have drawbacks.

Like you, we have been preaching the need for maximum protection. We know it can be gotten with properly selected organic finishes. It might be a further service to the industry to repeat your warnings, pointing out that top quality organic finishes will also do the job.

W. S. ROBERTSON,
Asst. Industrial Sales Mgr.

National Electrical Manufacturers Association
New York, N. Y.

Editor:

Your publication contributed substantially to the achievement of the reduction in the Federal manufacturers' excise taxes on appliances from 10% to 5%.

You kept your readers informed of the urgent need for reduction in the appliance tax, and the urgent need for active support of our program. You also kept your readers well informed regarding the status of excise taxes during the legislative processing of the Excise Tax Reduction Act of 1954.

In behalf of the NEMA Excise Tax Committee I wish to express the committee's sincere appreciation for the excellent support which you have given to the success of the excise tax reduction program.

J. R. POTEAT, Chairman
NEMA Excise Tax Committee



FITS
inside
any window
ANYWHERE

Exclusive Perfection "Inside-the-Glass Line" feature helps you get profitable, multiple-sales in office building, hotel, motel and hospital markets. Write Perfection Stove Company, 7515-B Platt Avenue, Cleveland 4, Ohio.

Perfection
"INSIDE THE GLASS LINE"

ROOM AIR CONDITIONER

FIVE-FIGURE POSITION AS REGIONAL MANAGER FOR NATIONAL MANUFACTURER

He must have—Packaged air conditioning and year-round residential air conditioning know-how, including salesmanship, engineering, and application; Ability to franchise new dealers in Texas, Oklahoma and Arkansas area, service present dealers in accordance with factory policy, train and develop dealer personnel; Co-operative attitude, good personality, sound business ability.

Replies will be kept strictly confidential and will be answered. Submit complete details of qualifications, experience, and recent photograph. Our people know of this ad.

SEND REPLIES TO BOX 4576,
AIR CONDITIONING & REFRIGERATION NEWS

NOW...A LOW COST WAY to

Convert Warm Air Systems to Year-Round Air Conditioning



HOW CONVERT-TO-COOL WORKS: The Typhoon cooling coil is placed right on top of an existing furnace and connects into present ductwork. The refrigerating unit (a small package about 3 feet square) is located in a convenient spot outside the living area. It's easy to install. . . .and you'll sell and service cooling only.

Tremendous New Market Over 11 million homes throughout the country have warm air furnaces. Every one is a hot prospect for Convert-to-Cool!

Air-Cooled Eliminates water supply and drainage problems and extra plumbing costs. Assures operation during water shortage!

TYPHOON
AIR CONDITIONING

TODAY—wire,
phone, or use
the coupon for
full details!

Typhoon Air Conditioning Co., Inc. A-9
794 Union Street, Brooklyn 15, N. Y.
I'm interested in selling the Typhoon Convert-to-Cool system. Please rush full details.

NAME _____

FIRM _____

ADDRESS _____

CITY _____ ZONE _____ STATE _____

TYPHOON AIR CONDITIONING CO., INC.
794 Union Street • Brooklyn 15, New York

Specialists in Air Conditioning Since 1909



TELLING and SELLING

A guide to smart advertising and merchandising practices.

This series of articles comprising ideas and principles for the small retail or manufacturing business is written by James D. Woolf, who was for more than 20 years a vice president and director of J. Walter Thompson Co., one of the largest advertising agencies.

By James D. Woolf

Advertising Does Not Jerk—It Pulls Gently Day by Day

There probably have been exceptions, but advertising is seldom a quick and easy road to riches.

Few indeed are the business successes that are built overnight. The Gillette company sold only a handful of its new safety razors in the first few years of its existence. Jergen's Lotion, today enormously popular, is said to have been in the red during the first seven years of its life.

Both Marshall Field and Potter Palmer struggled through heart-breaking disappointments during the early days of their later fabulously successful careers.

Advertising is rarely a short cut. Oftener than not, as many businessmen have found out to their sorrow, it seldom pays off on a short-term basis.

John Wanamaker, a shrewd advertiser, once made this observation:

"If there is one enterprise on earth that the quitter should let alone, it is advertising. Advertising does not jerk—it pulls. It begins gently at first, but the pull is steady. It increases day by day, year after year, until it exerts an irresistible power."

People, by and large, don't change their minds and their loyalties too easily. They are slow to depart from fixed habits of living. They cling stubbornly to old ways. For example, millions still rely on doubtful patent medicines despite the continued opposition of health authorities.

Millions still don't brush their teeth despite the Midas fortune that has been spent and is being spent for advertising of dentrifices and brushes.

It takes persistent repetition over a long period of time to drive an idea home—universally. According to one able research authority, 30% of the American people believe that the United States was at one time a member of the League of Nations. Another 26% doesn't know. This despite the fact that billions of words on the subject appeared in the nation's magazines and newspapers! Only 44% of the of the people know the fact: The U. S. never was a member of the League.

Yes, it takes a long, long time for an idea to sink in. A number of years ago a manufacturer of



household cleaning products brought out a new powder (let's call it ABC) for dishes, pots, and pans. Chicago was selected for the test market, and over a period of 12 months 100,000 lines of advertising were run in two dominant newspapers. In addition, a great deal of point-of-sale material was used. Sales were fairly good, but not what the advertiser had hoped for. Was ABC's copy theme taking hold? Were most housewives conscious of the new product? The ads were strikingly done, the copy expertly written. Was too much expected too quickly? Surely every housewife in Chicago, after a whole year of steady advertising, ought to be familiar with ABC! Why, then, were sales so far below the quota set?

House-to-house researchers interviewed 500 housewives in Oak Park, a comfortable well-to-do Chicago suburb. Less than 100 of these women, after 12 months of advertising, knew definitely what ABC was, and only a few of these had accurate knowledge of the copy theme.

Obviously, in the words of Wanamaker, the advertising had not "jerked."

Was the theme no good? Or was the time too short? Further study proved that the time was too short: the impatient advertiser was looking for a quick and easy road to riches.

Too often the new and inexperienced advertiser, in both retail and national fields, starts operations

with not enough money in the kitty.

UNDERspending is one of the most common reasons for advertising failure. UNDERspending means sending a boy to do a man's job.

The new entrepreneur sets up for himself a hoped-for first year sales volume of, say, \$100,000. He figures that 1% of this—\$1,000—will be enough for advertising. One per cent will NOT be enough—except in extremely favorable situations. Here, on the average, are the percentages, 1952 figures, spent by a few typical industries:

Canned foods	2.50
Other foods and grocery	8.75
Household equipment	3.00
Drugs and cosmetics	30.00
Textiles and clothing	2.30
Electrical appliances	5.00
Radio and TV sets	5.00
Tires	2.25
Alcoholic beverages	3.90
Office equipment	2.60
Automotive	4.90
Jewelry and photographic	6.50
Average	2.55

Be prepared to invest an adequate percentage of sales in advertising—and be prepared to stay with it. Remember John Wanamaker's wise words: "If there is one enterprise that the quitter should let alone, it is advertising."

To Cool Hosiery Plant

SCOTTSBORO, Ala.—The new Scottsboro hosiery plant of Burlington Mills Corp., now under construction, will be air conditioned.

New Firms Bring ARI Membership to 168

WASHINGTON, D. C.—The Air-Conditioning and Refrigeration Institute of Washington, D. C., recently announced the following new members:

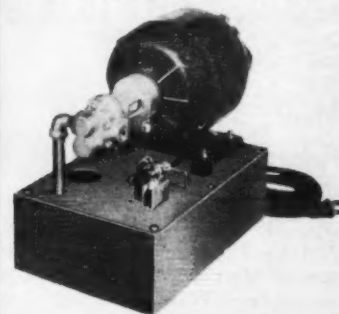
Burnham Corp., Irvington, N. Y.; Gibson Refrigerator Co., Greenville, Mich.; Gouvernair Corp., Oklahoma City; Hotpoint Co., Chicago; International Harvester Co., Chicago; Keco Industries, Inc., Cincinnati; Lonergan Mfg. Co., Albion, Mich.; Quiet-Heat Mfg. Corp., Newark, N. J.; Reynolds Metals Co., Louisville, Ky.; Tywel Mfg. Corp., Brooklyn; Universal Major elec Appliances, Inc., Lima, Ohio; Welbilt Stove Co., Inc., Maspeth, L. I., N. Y.; Soreng Products Corp., Schiller Park, Ill.; and Superior Foundry, Inc., Cleveland.

This brings the membership of ARI to 168 and includes virtually all of the leading manufacturers of air conditioning and commercial refrigeration equipment, the institute claimed.

Admiral Dividend Set

CHICAGO—The board of directors of Admiral Corp. recently declared a regular 25-cent dividend payable June 30 to common stock shareholders of record June 15.

eliminate pump-to-drain disposal line with



NEW high-pressure Condensate DISPOSAL UNIT (MODEL CCC)

• 1/2 H.P. MOTOR — pumps against 100 lbs. pressure

• AUTOMATIC OPERATION mercury float switch

• HOT-DIPPED GALVANIZED TANK

No need to run separate disposal line. Water is pumped directly into the condenser water line, through check valve furnished.

\$7450 { to contractors — or order through your jobber (F.O.B. Dallas)

for full information — write or call

WASHCRAFT CO.
MECHANICAL EQUIPMENT
5643 Dyer Street • Dallas, Texas

The Industry's confidence in Henry Products is reflected by the largest demand in the Company's production history over the past 40 years

HENRY

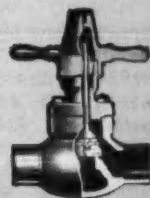
Valves, Driers and Strainers

Henry Valve Co.

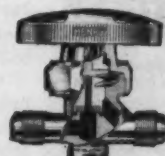
Melrose Park, Illinois (Chicago Suburb)
Cable: Hevalco, Melrose Park, Illinois



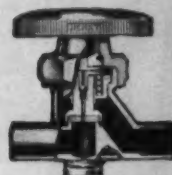
Relief Valve



Wing Cap Valve



Packless Valve With Balanced-Action Blue Bantam Type



Packless Valve With Balanced-Action Standard Type



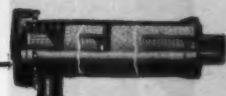
Drier



Ammonia Valve



"Y" Strainer



Angle Type Drier

Attention Users and Dealers

FRIGIDAIRE ICE CUBE MAKERS

A DUNHILL PRODUCT

Increase the storage capacity from present 100 lbs. to 300 or 500 lbs. with the new

Add-A-Bin Ice Storage Units

We supply everything. Conversion takes less than one hour.

No cutting of floor of the cuber.

500-lb. storage bin is available with slant-opening sliding doors for "scoop out," and with refrigerator-type door for "shovel out."

1. Gives reserve storage for "week-end" or "Monday morning" or other deferred usage.

2. Less stoppage of production by the thermostat (when the smaller bin fills up) may increase by several hundred or more pounds weekly the actual harvest of ice cubes gathered by the user.

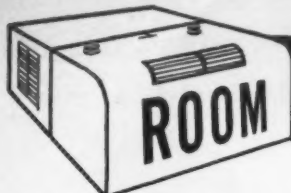
Ask your dealer or write:

National Sales Office
L.A. 4-2640

N. SILVERMAN

488 7th Ave., New York, N. Y.

Valves • Driers • Strainers • Control Devices and Accessories for Refrigeration • Air Conditioning and Industry Applications



AIR CONDITIONERS

Muntz Reorganization Takes Another Step

CHICAGO—U. S. District Judge Win G. Knoch recently ordered that the Chapter X reorganization case of Muntz TV, Inc. be referred to Referee Wallace Streeter and Special Master of Chancery Ferre C. Watkins.

Judge Knoch acted on the motion of petitioning trustees Floyd G. Dana and C. Wylie Allen.

Streeter will conduct hearings on proofs of claims of trade creditors, wage claims, government claims, and objections, while Watkins will hear petitions by trustees involving financial matters and transactions. Certain matters will come before Judge Knoch at various times, according to the order.

Muntz reorganization plans are moving rapidly, trustees reported.

Shelby County Gets Bid on 75 One-Ton Air Conditioners

MEMPHIS, Tenn.—Bids for purchase and installation in county offices in the Courthouse of 75 one-ton air conditioning units were received May 27 by the Shelby County Commission. The new units will practically complete air conditioning of the county offices.

Bids for the units were under study for recommendation by Allen & Hoshall, consulting engineers. Apparent low bidders were Welbilt Stove Co., Inc., the Welbilt unit, \$18,957; Brogdon Bros., Remington unit, \$18,975; and D. M. Shy, Inc., Mathes unit, \$19,601.

Five New Distributors Named by Remington

AUBURN, N. Y.—Appointment of five new distributors for Remington window and console room air conditioners has been announced here by M. L. Judd, Remington Corp. general sales manager.

In western Pennsylvania, eastern Ohio, and northern West Virginia, the Remington line will be handled by McCutcheon Distributing Co., Inc., Pittsburgh. Contract was negotiated by Charles E. Klein, McCutcheon president, and Ronald H. Pepin, Remington representative.

For eastern Arkansas, west Tennessee, and northern Mississippi, Remington has appointed Associated Southern Industries, Memphis, Tenn. Associated's general sales manager, J. H. VanNatta and Remington representative W. G. Adair signed the contract.

Southern Indiana, southern Illinois, and western Kentucky will be covered for Remington by Small & Schelosky Co., Evansville, Ind. Franchise was signed by W. P. Schlimmer, distributor's general sales manager, and T. J. Ward, Remington representative.

In the portion of Ohio west of the territory handled by McCutcheon Distribution Co., and the state of Indiana, Remington units will be distributed by Wall Distributing Co., Fort Wayne, Ind. Contract was negotiated by Leonard A. Wall, general sales manager, and S. M. Davison, Jr., Remington representative.

Dealers in Tampa, St. Petersburg, and Orlando, Fla. will be covered for Remington by Charles A. Lenz & Associates of St. Petersburg. Franchise was signed by Jack Thorpe, Lenz general sales manager and L. C. Zicarelli, Remington representative.

This distributor has already begun a direct mail campaign to dealers, builders, and hotel and motel operators in its territory.

Only The Deals Will Be Hot

CORAL GABLES, Fla.—Gables Motors, new Lincoln-Mercury agency here, has begun construction of a new building at the southeast corner of Ponce de Leon Blvd. and Bird Rd. that will be air conditioned. Thomas Skinner is president of the firm.



FIRST LOOK: Features of Deepfreeze's introductory line of room air conditioners are pointed out to distributors by F. F. Duggan, vice president and general manager, Deepfreeze Appliance Div. In the group are, left to right, L. J. Sorensen, executive vice president, Motor Products Corp.; Duggan; H. K. Ekberg, president, K. K. Co., Inc., Omaha; H. H. Corn, president, Consolidated Appliances, Inc., Amarillo, Texas; and E. O. Olsen, vice president, K. K. Co.

Universal Diffuser Agents

NEW YORK CITY—Universal Diffuser Corp.'s recent appointment of a number of sales agents has been announced.

The new agents are Controlled Air Co., San Francisco; Frederick Co., Spokane, Wash.; Wm. N. Hart, Jackson, Mich.; D. B. Fried, Jr., New Orleans; So. Texas Refrigeration Supply Co., Corpus Christi; Lewis C. Baxter Co., Toledo; E-Z Engineering Co., Milwaukee; H. M. Ludlow, Jackson, Miss.; J. P. Ashcraft Co., Ft. Worth, Dallas, and Shreveport, La.; Russell R. Gannon Co., Louisville; and Tri-Air, Inc., Cincinnati.

Louis Pacent Appointed Quiet Heat Works Mgr.

NEWARK, N. J.—Louis G. Pacent, Jr., assistant to the vice president in charge of manufacturing of Emerson Radio & Phonograph Corp., has been named works manager of Quiet Heat Mfg. Corp., manufacturer of air conditioners and oil burners, in which Emerson acquired a majority interest last October.

This was announced recently by John D. Small, Quiet Heat's executive vice president.

Pacent has been associated with Emerson since 1944.

Name 3 Distributors for Servel Air Conditioning In La., Ohio, Ark. Areas

EVANSVILLE, Ind.—Appointment of three distributors for Servel air conditioning equipment and "Wonderair" room air conditioners was announced recently by H. R. Nielsen, manager of the air conditioning division of Servel, Inc.

The newly-appointed distributors are B. Segall Co., Shreveport, La.; Serv-Well Air Conditioning Supply Co., Parma, Ohio; and Wilkins Co., Little Rock, Ark.

The Segall firm's area includes 25 parishes in northern and central Louisiana. B. Segall is president and general manager of the company.

The Serv-Well company covers 11 counties in the greater Cleveland distributing territory, including the Akron, Canton, Elyria, and Lorain trading areas. Officers are Franklin T. Linx, president; Edmund B. Linx, vice president; and F. T. Linx, secretary of the company.

The Wilkins company's area embraces 59 counties located in Arkansas.

Executives of this organization include W. E. Wilkins, president and general manager; C. E. Wilkins, sales manager; and E. B. Bates, service manager.

E-Z-SEE
LIQUID INDICATOR

NEW FLO INDICATOR FLAP SHOWS ALL FLOW CHANGES

Analyze flow, function of expansion valve, by means of E-Z-SEE sensitive flap, instantly responsive to variations in flow. Positively leak-proof — hundreds of thousands in use.

Available at Wholesalers everywhere

REMCO
INCORPORATED
ZELIENOPLE, PA.

usAIRco
30 YEARS OF AIR CONDITIONING

a complete "packaged" refrigerated air conditioning line

Packaged Central Station Air Conditioners 3 to 60 h.p.

Packaged Air Conditioners 2 to 15 h.p.

Home Unit 2 to 10 h.p.

Fiberglass Window Units 1/2, 3/4, 1 h.p.

UNITED STATES AIR CONDITIONING CORPORATION
MINNEAPOLIS 14, MINNESOTA

For dealer plan write Dept. ACRN64

here's how **PENN** helps you sell packaged *Air Conditioning*

1 a complete line of time-tested **AUTOMATIC CONTROLS**

Type AC10 heating and cooling thermostat featuring both hot and cold anticipation to assure closer temperature and humidity control.

Type 271AP12AP with lockout on both high and low pressure is specifically designed for hermetic units in packaged air conditioning.

Series 246 two-piece water valve developed for city water-cooled hermetic compressors.

Typical control panel consisting of necessary component parts for unitized control of air conditioning.

PENN
AUTOMATIC CONTROLS

FOR HEATING, REFRIGERATION, AIR CONDITIONING, GAS APPLIANCES, PUMPS, AIR COMPRESSORS, ENGINES

Use Chilled Water

Tests Disclose Good Cooling Possible By Converting Hot Water Heating Plant

SWAMPSCOTT, Mass.—Satisfactory summer cooling can be achieved by converting a residential hot water heating system to chilled water operation, it will be reported at the semiannual meeting of the American Society of Heating and Ventilating Engineers here June 28 to 30.

Prof. Warren S. Harris and Paul U. Waibler of the University of Illinois will disclose results of cooling tests conducted last summer in the research home built in 1940 for the Institute of Boiler and Radiator Manufacturers and the University of Illinois Engineering Experiment Station.

Daily Operating Costs

Daily operating costs of the system varied from \$0.446 to \$1.139 for cooling, depending on the method of operation, it was found.

The test home, a two-story structure, typical of the small well-built American home, is of wood construction, covered with a brick veneer. All outside walls and the second story ceiling are insulated with 3½-in. thick mineral wool batts.

Heat gains through windows, walls, and ceilings, as well as air infiltration loads, were determined

for the society's 1953 Guide. While testing, the house was occupied by an average of four people during the day and two at night. There was normal use of lights, but no cooking during the testing.

An outdoor temperature of 96° F. and an indoor temperature of 75° F. were selected as design conditions. The cooling system, designed for use with a hot water heating system, consisted of a water chiller and room units resembling convectors, through which either chilled or hot water could be circulated. Heating equipment piping was adequate for cooling purposes, and covered with waterproof insulation, prevented condensation. All room units, except the dining room, were of the same size.

Compressor motor and circulating pump operations were controlled by a room thermostat, 30 in. above the floor on an inside wall of the living room. Its operating differential was approximately 2° F. A limit control stopped the compressor motor whenever chiller water temperature dropped below approximately 39° F. About 100 copper constantan thermocouples, permanently installed in walls and ceilings, measured temperatures at

important points, under various operating conditions.

Recording thermometers made continuous records of the air temperatures in each of the six rooms, while four humidity indicators, one recording hygrometer, and one wet and dry-bulb recorder checked moisture content. Self-starting electric clocks, wired into compressor and circulator motor units gave the total time of operation.

The following test conditions were used:

Windows closed at all times. No ventilation air other than normal infiltration; windows closed at all times, but mechanical ventilation supplied by continuous operation of fan in east window of kitchen.

Windows open from 10 p.m. to 7 a.m. Cooling equipment not operated at this time. Tests were

2-Way Radio Used To Meet Cooling Sales Competition

HOUSTON, Texas—Competition for residential air conditioning business has caused Wade Electric Co. to install two-way radio in its service cars.

This enables personnel to make calls with greater efficiency, it was pointed out.

The store combines sales of General Electric, Westinghouse, Admiral, and "Wadeair" units with electrical service. Thus the firm can handle electrical problems that require more than the usual installation work.

Residential Air Conditioning

made without ventilating air, and with kitchen exhaust fan running.

Tests Ran 24 Hours

All tests were 24 hours in length, with the thermostat set to maintain an average indoor temperature of 75° F. Power consumption of the motors, temperatures of the water entering and leaving the chiller and each of the room units, and respective flow rates were recorded for each test period.

Aug. 3, 1953, was a typical test day. It began at 7 a.m. and ended at 7 the next morning. The house was occupied by three people during morning working hours, five in the afternoon, and one during the night. Two cooling units were used, one in the living room with fan at high speed, and one in the northeast bedroom at low fan speed. The outdoor temperature was 69° F. at 8 a.m., rose to a maximum of 95.5° F. at 2 p.m., and decreased to a minimum of 75.5° at 5:30 the next morning. Other tests were with all six units working, with five, and with three.

The only changeover operation was covering the piping with suitable insulation. An outdoor temperature of 100° F. required a maximum sensible cooling load about 17% less than the one determined by conventional methods. Most of the difference was in estimating heat gains through glass.

In estimating cooling loads it was assumed that all radiant energy transmitted through glass is immediately available to heat the air in the room. Actually, it first heated objects in the room, and they in turn heated the room by convection. As long as room doors were open, satisfactory cooling could be done by operating only two or three room units.

Load Requirements

Cooling units installed with a maximum load exceeding room requirements decreased performance and increased operating cost. The water chiller capacity must be sufficient to quickly reduce water temperature to the minimum.

Opening windows at night reduced the cost of operation by as much as 50%; use of the kitchen exhaust fan increased cost about 10%. Operation of all units gave quicker cooling, but increased humidity to a point uncomfortable to occupants. With fewer units each would have operated with a lower water temperature and, consequently, would have removed more moisture from the air.

Men's Shop Air Conditioned

CHARLESTON, W. Va.—Kelley's Men's Shop has occupied new quarters at 108 W. Washington St. The store is air conditioned.

Farmers Told Home Cooling Will Cost Less Than Good Dairy Cow

PHILADELPHIA—The practicality of air conditioning for the farm home is the subject of a major article in the June issue of *Country Gentleman*.

"You Can Afford To Be Comfortable," written by Don Cunnion, tells farm families they can have summertime comfort at less than the cost of a good dairy cow.

"A window-type air conditioner to cool and dehumidify one room can cost less than a good dairy cow," says the magazine; and it goes on to describe and picture various room air conditioners practical for the farm home.

Central air conditioning also is discussed in the article, with the magazine maintaining that a recent survey conducted by it indicates that the average farm family hopes eventually to air condition its entire house.

The magazine points out that the cost of air conditioning an entire house can amount to as little as \$1,200, and the cost of operation of a central air conditioning system is estimated to average \$15 to \$20 a month while in use.

The most popular type of central air conditioning for the farm home is, according to the magazine, that which can be combined with a warm-air heating system. This type and other central air conditioning systems are pictured in additional photographs accompanying the article.

JUST ASK US

Turn to "What's New" Page for useful information on new products.

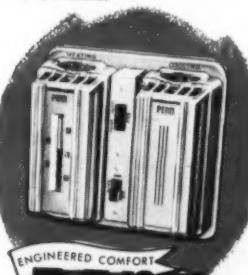


for year 'round Home Comfort

Because "just-right" temperature inside your home is so dependent upon automatic controls . . . do as the heating and cooling experts do . . . specify Penn Controls for year 'round air conditioning equipment. You'll get much more dependable operation and all-season comfort!

And, here's why this is true. For many years Penn has been a specialist in building both heating and cooling controls. Because of this proven, time-tested leadership, major manufacturers of year 'round packaged air conditioning select and use Penn. They know Penn Controls give care-free top performance and dependability.

Remember, tell your dealer you want Penn Controls . . . he can get them for you and they cost no more! Penn Controls, Inc., Goshen, Indiana. In Canada: Penn Controls Limited, Toronto, Ontario.

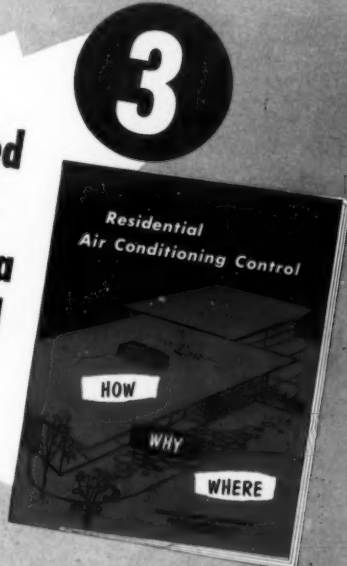


PENN
AUTOMATIC
CONTROLS

Selected by leading manufacturers for over 30 years
FOR HEATING, REFRIGERATION, AIR CONDITIONING
PUMPS, AIR COMPRESSORS, ENGINES, GAS APPLIANCES

2 interest-creating, consumer national advertising in
BETTER HOMES & GARDENS AMERICAN HOME NEWSWEEK

FREE manual packed with control application data you'll need and use for air conditioning



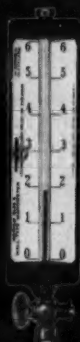
Get the right start in the new, profitable, residential heating and cooling market. Be sure the packaged air conditioning you sell and install is fully equipped with Penn Controls. Penn Controls, Inc., Goshen, Indiana. Export Division: 13 E. 40th Street, New York 16, N.Y., U. S. A. In Canada: Penn Controls Limited, Toronto, Ontario.

CLIP AND MAIL

coupon to Penn Controls, Inc., Goshen, Indiana for your FREE copy of "Residential Air Conditioning Control."

Firm _____
Address _____
City _____ Zone _____ State _____
Individual's Name _____
Type of Business _____

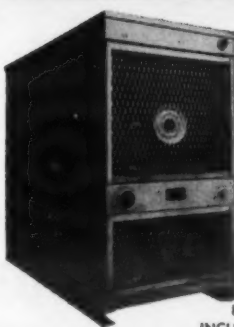
MERIAM FILTER PRESSURE GAUGES



Direct reading, accurate, non-spilling for indicating low air pressures. Designed for use as a portable unit, or permanent installation. Model C-4128 0"-3" water pressure. Model C-4490 0"-6" water pressure.

THE MERIAM INSTRUMENT CO.
10994 Madison Avenue • Cleveland 2, Ohio

look ahead . . . with



PEERLESS
AQUA-SAVER

Americas most outstanding cooling tower

- 3 TONS THROUGH 30
- LONGER LIFE
- LOW INSTALLATION COSTS
- HIGH EFFICIENCY
- RECOGNIZED QUALITY

PEERLESS SALES, Aqua-Saver Div.
1811 Main — Little Rock, Arkansas
☐ Send engineering & data Bulletin #BC-183.
☐ Have your nearest distributor call on us.
Firm name _____
Address _____
City _____ State _____

PEERLESS
DIVISION

PEERLESS
Sales
COMPANY
LITTLE ROCK, ARKANSAS

Commercial Refrigeration

For Added Warmth

Tinted Display Cases Provide Background, Says Engineer Who Urges Color In Markets

CLEVELAND—"Properly tinted enamel on refrigerator display cases makes an effective background for merchandise (by not competing with for attention) and also emphasizes the cool and appetizing appearance of frozen foods," believes Howard Ketcham, who heads a color and illumination engineering firm in New York City.

Discussing the use of color and lighting at the 17th annual convention of the Super Market Institute, Ketcham declared that "color is the most important individual merchandising force in any food store. It controls the appearance of every item on display as well as the customer's reaction to what she sees.

"Most supermarkets today are still painted 'sanitary' white, a color considered to have some natural association with the selling of food, but which in reality lends a cold, clinical, impersonal,

institutional look to a market place where warmth, life, and hominess are more in order.

"Meanwhile, white is being seen less and less in today's kitchens, appliances, and interior decoration schemes. The trend is definitely to related colors in the home. This is one of the most important things for anyone in the supermarket field to remember; if women want color in their homes, it's more than likely they will gravitate to the colorfully styled supermarket," he predicted.

"Color styling can help make the market a place where the customer feels good enough to linger and browse. In stores we have engineered for color and lighting, the side walls are done in pleasant shades that complement the tinted porcelain-enameled cases for frozen and refrigerated foods.

"An important virtue of good color styling is the fact that it

does away with the institutional atmosphere created by 'sanitary' white. The rear walls, toward which the customer's eye is drawn past the less conspicuous side walls, are usually papered in a distinctive, colorful, and appropriate paper selected especially to emphasize food products. Each side of the rear wall is usually flanked by an area of brilliant accent color. Front entrances are especially treated to dramatize and call special attention to the way into the shop," Ketcham said.

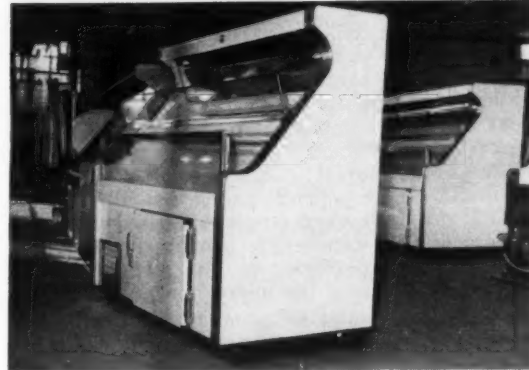
"Color has a somewhat uniform influence on the psychological reactions of most people. In selecting a color theme for any purpose or use, it is therefore desirable to first determine the mood you wish to create and then select the colors that will tend to best produce the effect desired. For instance:

"Red is exciting, yellow is cheering, purple is depressing, blue is cooling and subduing, orange is activating, green is refreshing, magenta is stimulating.

"Remember this when planning your store," he advised.

"In all successful advertising and display art, the psychological aspects of color are capably and constantly brought into play. The implication of hot food, for example, will be delineated by the use of red, a warm color. There is a hint of freshness in green which has always been associated with vegetation. Cold objects can best be featured in blue lettering, since blue is considered a cold color."

WORKMEN in Bally plant are reconditioning refrigerated display case which was one of several damaged in fire that destroyed building occupied by distributor in New London, Conn.



RENOVATED case is now ready for shipment back to distributor.

Dealership Fire Shows Commercial Cases, Equipment Can Absorb Much Punishment

BALLY, Pa.—The ability of refrigeration equipment to absorb severe punishment was demonstrated in New London, Conn., recently when a full stock of refrigerated display cases and coolers resisted the combined ravages of fire, water, and chemicals.

Damage to the porcelain-coated equipment was negligible, despite the fury of an inferno that took the lives of five persons, completely gutted the three-story building, and totally destroyed all other furnishings.

The blaze occurred in an apartment and store building occupied by New London Store Fixture Co. in a downtown tenement section. Some two dozen persons, trapped by the flames, leaped to safety from second and third floor windows. As fire weakened the first floor, the cases and coolers crashed into the basement.

Eight open style and closed cases, the dealer's entire showroom stock, were rushed to the manufacturer, Bally Case & Cooler Co. at Bally, Pa., for reconditioning.

Bally production men gave the incoming equipment top priority on the factory assembly line. They quickly replaced the sealed glass units that had been broken in the display doors, replaced electric light bulbs, and polished the hardware on some of the models that was slightly tarnished from the chemicals used to fight the fire.

There was no damage, however,

to the acid and fire resistant porcelain on the cases and coolers. Workmen merely had to wipe off soot that had settled on the surfaces during the fire.

In two days the eight pieces of equipment were completely renovated and returned to the New London distributor at his temporary headquarters. The distributor handles refrigeration equipment for stores and restaurants.

DETROIT SOLENOID VALVES give you

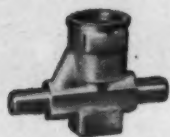
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against moisture, dirt, leakage and noise!



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- Capacities to 5.1 Tons Freon-12.
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- Quiet operation—no A.C. hum.
- Rugged forged brass body.
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- Sturdy mounting boss.



No. 683 in forged brass body available with either flare (3/4" S.A.E. for 1/4" x 1/4" reducing nut) or sweat (1/4" or 1/2" O.D.) connections.



Barrel type internal strainer supplied with sweat and pipe thread models.



No. 683 also available in cast brass body with 1/2" female R.P.T. inlet and outlet connections.

Other Detroit Solenoids for Capacities To 50 Tons F-12



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No. 686 Capacities to 20.4 Tons F-12



No. 689 Capacities to 50 Tons F-12

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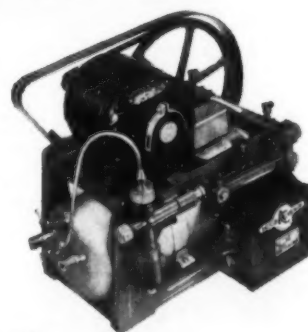
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● THE NEW ANDERSON AUTOMATIC ELECTRIC CARBONATOR is rolling off the assembly line and you can get immediate delivery if you act now.

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- LIGHT WEIGHT • 26 GALLONS PER HOUR
- LOW COST • MINIMUM UPKEEP

DISTRIBUTORS . . . We still have some choice territories waiting for enterprising distributors.

DEALERS . . . Write now for full details about this wonderful money maker . . . ideal for bar, fountain or bob tail installations.



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Factory—Hopewell Junction, N. Y.

Commercial Refrigeration

Galleys of 25 Ships In Great Lakes Fleet Converted To Permit Use of Frozen Foods

CLEVELAND — Galley refrigeration facilities of 25 large ore and coal freighters that ply the Great Lakes have been converted from normal temperature to 0° F. operation for frozen foods.

Management of this large fleet of ships decided that the switch to frozen foods, including pre-cut frozen meats, would offer several advantages over their previous food storage and handling operations. The change in refrigeration equipment was made last winter before the 1954 sailing season opened.

Contractor in charge of the job was Alco Refrigeration Sales & Service, Inc., headed by H. A. Sheehan, who has made marine refrigeration one of his firm's specialties.

SOME UNITS CONVERTED

New freezers were installed on 18 of the lake vessels. On the remaining seven ships the present facilities were converted from normal temperature (35°) to low temperature.

All the walk-in freezers are located in the galleys of the ships, with the condensing units being installed on the deck below.

Tecumseh open compressors were used for each job, some being of 1/2-hp. size, the others, 3/4 hp. These had to be specially fitted with direct current motors and relief valves. All the work on the condensing units was done in Cleveland by Alco Refrigeration in cooperation with James H. Downs, head of Refrigeration Supplies, Inc., Cleveland parts wholesaler and Tecumseh distributor for the area.

"Boat refrigeration work is much

harder than refrigeration on land," Sheehan points out. "Coast guard rules and regulations are much more strict than most regulations encountered on land."

"For example, the Coast Guard requires that relief valves be installed on the compressor between the compressor and the compressor discharge valve. The line from this relief valve is then by-passed into the suction line. There must also be a relief valve on the condenser which is piped overdeck to the atmosphere."

"Tubing has to be strapped every foot to 18 in., and I mean really strapped, to withstand the vibration on every ship. Silfos is used throughout. Every joint," Sheehan added, "is checked by a Coast Guard inspector while the system is subjected to a nitrogen pressure test."

For this job 3/4-hp. direct current motors were installed on the 1/2-hp. units, and 1-hp. motors on the 3/4-hp. machines.

"We go a size larger on ship-board installations to gain a safety factor," Sheehan explained.

DRIP-PROOF MOTOR STARTERS

Special drip-proof motor starters were installed throughout to meet Coast Guard requirements, he also said.

A dual control system was devised by Sheehan to prevent difficulties arising because a cook or steward changed the control settings too much. This has happened in the past, he said, and can prove serious. And since the average lake vessel carrying ore puts into port infrequently and stays but a few short hours during the sailing season, servicing this equipment can be quite a problem.

Sheehan's solution has been to install both thermostatic and pressure controls. The thermostat is adjustable and thus gives the cook or steward the chance to change the temperature setting slightly. High and low pressure controls preset by Sheehan, however, provide safe limits. If the thermostat is moved too far one way or the other, the pressure controls take over, thus keeping the system operating within the safe range, he explains.

Kelvinator Frozen Food Cases Feature Automatic Defrosting

CHICAGO—Kelvinator has announced the addition of two fully automatic, self-defrosting models to its line of commercial frozen food merchandising cabinets.

H. C. Patterson, commercial sales manager, said the cabinets were developed to meet a growing strong trend among restaurants, delicatessens, and food stores to offer customers frozen "specialties" to take home.

Defrosting occurs only once each 24 hours and requires about 25 minutes. During this period the product temperature is not appreciably affected. Defrost water is evaporated automatically, and no plumbing drains are needed.

Model 60AD has a capacity of 452 pint packages and model 84AD holds 652 pint packages.

The new cabinets continue, with certain design refinements, the open-type glass front Teague design used in the Acco Super-View plate-type display cabinets.

A new feature is a forced air refrigerating system designed primarily to eliminate the frosting problem experienced with all plate-type cabinets. This opens up the cabinet interior, both in product visibility and flexibility to accommodate a wide variety of package sizes and shapes. Dividers can be

ATTRACTIVE Jane Casey of Chicago adds feminine beauty to a new self-defrosting frozen food cabinet now offered by Kelvinator in two sizes. Defrosting occurs only once each 24 hours and requires about 25 minutes.



shifted easily to any desired spacing, or removed, without affecting refrigeration.

Patterson said the refrigerating system used in the cabinet has these unique features:

The condenser is the static radiant type, and requires no attention by the user.

The refrigerating coil is exceptionally large, extending the full length of the cabinet, and this affords extra low temperature. The coil is located in the superstructure, above the frozen food. Hence, during defrosting the addition of heat to melt the ice does not raise the temperature of the food.

Electrical heater strips perform the defrosting. This eliminates possible sources of service trouble found in more complicated commercial systems.

Packages can be seen both through the top opening and glass front because of the rail lighting, Patterson said. In addition, visibility through the glass front, even in humid weather, is assured by warm air from the condensing unit which flows across the front of the Thermopane. This eliminates "sweating" experienced previously with glass front cabinets.

A shelf 16 in. deep for non-refrigerated items is provided on top of the superstructure. It is only 9 in. above the cabinet.

Refrigerating coil, circulating fans, defrost heater elements, and other parts are all readily accessible by simply removing 12 screws that hold the "pent-house" superstructure. Compressor, condenser fan, and defrost pan are all easy to reach by removing four screws.

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Frozen Foods . . . Service Type Meat Cases

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Display equipment recently redesigned for
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Good territories still available.

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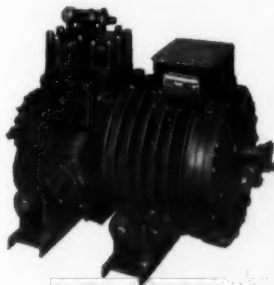
MODEL PL-32

Low Temperature
1/3 HP. Single-Cylinder



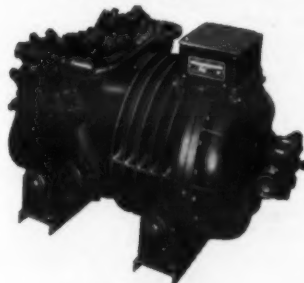
MODEL PM-99

Medium Temperature
1 HP. Twin-Cylinder



MODEL PH-300

High Temperature
3 HP. Twin-Cylinder



MODEL PH-500

High Temperature
5 HP. Four-Cylinder

add the EXTRA "SELL" that
EXCLUSIVELY SERVEL!

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HERMETICALLY SEALED POWER UNITS
for fixtures that deserve the best

AVAILABLE WITH REFRIGERANT-COOLED MOTORS
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For high, medium or low temperature
For expansion valve systems (1/2 to 1 HP)
For capillary tube systems (1/4 to 3 HP)

Don't shortchange the sales chances of otherwise superior fixtures by your choice of power unit! Check Servel SUPERMETIC — for weight-free, space-saving design — for quiet operation and high-capacity performance — for limited protection provided by Servel's Factory Warranty. That's the kind of quality features you will find in every SUPERMETIC. The main exacting power unit requirements, the most important is that your fixtures should be "Powered by Servel Supermetics!"

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We're In Like Flynn If We Remain Prudent

ALTHOUGH our national defenses against POOR business are mighty, they can and should be strengthened, according to the Research and Policy Committee of the Committee for Economic Development.

Newly discovered opportunities in our national financial and psychological structures "have reduced the multiplication of a deflationary impact." (That means: we can't go broke horribly quick anymore).

Cerebrated by leading economic thinkers, this CED Report introduces several salubrious recommendations for expanding business through sympathetic government policy.

Also, it cites these reasons for optimism:

Business, farm, and family debts are low, relative to assets and earnings. Private debts are on a longer-term basis than ever before. Consumer's savings and assets are huge. Financial institutions can keep credit channels open with relative ease. Long-term planning by business has increased astoundingly.

Hence, we Americans are in good shape to take the Bumps of a temporary recession. Informed economic forecasters insist that the national cash budget should be balanced as soon as possible. They deplore recent concessions on the part of the Government to panicky pressure-groups.

To strengthen "built-in" automatic stabilizing features of government fiscal policy, the CED Committee suggests speedier income tax refunds. It also urges that, for tax purposes, business enterprises be permitted to apply operating losses against profits of the two preceding years, rather than one year as at present.

Also, by cutting present high tax rates prudently, it would be feasible to lower tax collections by billions of dollars on short

They'll Do It Every Time Jimmy Hatlo



notice, and thus offset a large part of the decline in private after-tax incomes that occurs in a recession.

Chances of increasing business volume quickly by increasing government expenditures are limited. Advance preparations for better roads, etc., might "blow-in" at least \$1.5 billion to the construction industry within one year after Congress takes action.

Our administration should be given clean authority to adjust terms of Federal loans (and loan guarantees) to the needs of economic stabilization, the CED argues. Although easing Federal Credit terms is restricted by Congress, there is some room for more attractive time payments—especially for household modernization loans, and for mortgages on higher-priced homes.

Direct tax-abating deals of this sort add up to a powerful package.

"These instruments are not so flexible, their effects are not so predictable, that they can be combined into a program for precise control of the level of economic activity. But if used with determination and skill they can help protect us against serious, prolonged recessions," the C.E.D. Committee hedges.

Whatever the progress in economic forecasting: we shall have to contend with the probability of large errors.

"Therefore, we cannot emphasize too strongly the importance of making action more flexible, of shortening the interval between the decision to act and the effects of the action," CED experts admit.

So:

Individual businesses can make a greater contribution to stability than they have in the past, it is averred, by doing better the things they already do well—such as developing new products to satisfy unexpected wants, applying improved production methods to reduce costs, and advertising-selling these new products imaginatively.

The Committee for Economic Development cautions against automatic cuts in advertising and sales budgets if and when sales decline. Businesses "should appraise the possibilities that will exist for maintaining and enlarging sales by redoubled advertising," this Group of Big Brains avers.

Fluctuations in inventories and in factory expansions have been both cause and result of recessions. These fluctuations could be moderated, of course, if business managers planned their investment programs with more attention to long-run growth prospects and less devotion to short-run economic swings.

And . . . unstabilizing inventory practices could be greatly reduced if trade associations and government agencies increased the flow of more up-to-date and complete statistical information on inventories and sales.

In short, we can indulge optimistic hopes for a tremendously augmented FUTURE if we play our cards close to the vest.

Thought Starters

I have never believed the human race is entirely bad, and I am sure it isn't when I see it standing in front of a pet shop, obstructing traffic and forgetting what it ought to be at work on. A race that is fascinated by guppies and goldfish, puppies and kittens, as the human race is, has a lot of good in it.—R. L. DUFFUS, *Nation's Business*.

"He hath never fed of the dainties that are bred in a book; he hath not eat paper, as it were; he hath not drunk ink: his intellect is not replenished; he is only an animal, only sensible in the duller parts."—SHAKESPEARE.

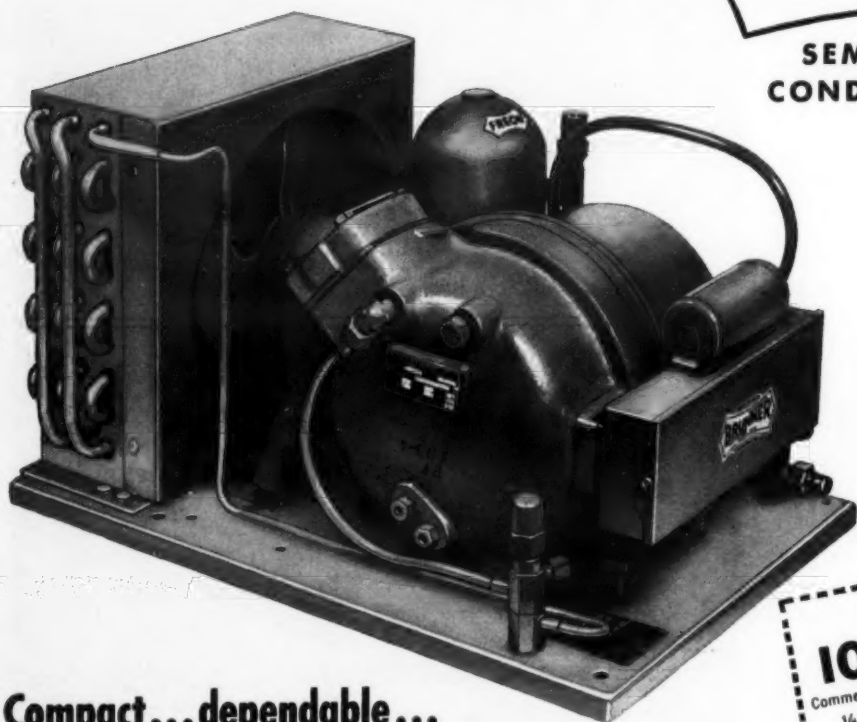
It is no more reasonable to damn our economic system because freedom permits men to abuse their opportunities under that system, than it would be to charge the church with responsibility for the sins of men who, in exercising that same freedom, refuse to abide by the teachings of the church.—ALFRED P. HAAKE.

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CONDENSING UNIT



**Compact...dependable...
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You asked for it—and now Brunner has it—a semi-hermetic condensing unit engineered for top performance and on-the-job servicing right down to the last bolt! Years of research and refrigeration know-how have put dozens of exclusive features into these new Brunner units—features that will mean more satisfaction for your trade—more profits for you...

SEE THE BRUNNER-METIC NOW at your Brunner Wholesaler's—or write us for complete details today...

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SEE IT! ORDER IT!
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...ANOTHER reason why



TYPICAL SESSION at the Third Vermont All-Refrigeration Exposition sponsored by Blodgett Supply, Inc. for the instruction of servicemen and salesmen in the area. The one-day exposition included displays, demonstrations, talks, and a tube bending contest.

Over 200 Servicemen and Salesmen Attend Wholesaler's Refrigeration Exposition

BURLINGTON, Vt.—More than 200 refrigeration servicemen and salesmen attended the Third Vermont All-Refrigeration Exposition held here recently by The Blodgett Supply Co., Inc.

The all-day event included an open house in the morning, with displays and demonstrations by over 20 manufacturers; a luncheon; an afternoon program of talks; a buffet supper; a tube bending contest; and awarding of prizes.

Blodgett Supply's exposition "started in a small way about five years ago but has grown by leaps and bounds and is the only one of its kind held in this area," according to John A. Audley, commercial sales engineer.

"This year it really was a much larger exposition than we have ever attempted before. We have found it greatly furthered the knowledge of the refrigeration servicemen in selling and in keeping sold the products they represent."

All dealers and servicemen in any way connected with the refrigeration trade in Vermont were invited. To help develop interest in the show, the company mailed them copies of the exposition program.

After registering for the event,

visitors inspected displays and watched demonstrations. Manufacturers represented and their contributions were as follows:

Alco Valve Co.—Phil Taylor displayed "T.X.V.'s," solenoids, and various other refrigerant controls; White-Rodgers Electric Co.—Tom Langan showed the full line of White-Rodgers controls; E. I. Du Pont de Nemours & Co., Inc.—Ben Keogh exhibited an operating display using two refrigeration systems showing the difference between "F-12" and "F-22."

Imperial Brass Co.—Al Mitchell and Ted Smith showed refrigeration valves and tools; Bush Mfg. Co.—Charlie Cavanaugh displayed unit coolers and air conditioning equipment; Heat-X-Changer Co.—working model of "latest in liquid cooling"; Detroit Controls, Inc.—Arvin West displayed a new demonstrating model of automobile air conditioning.

Owens-Corning Fiberglas Corp.—Charlie Soderberg and Walter Bowes demonstrated construction of walk-in coolers using Fiberglas insulation; Esco Cabinet Co.—Gilbert and Harold Cann displayed sectional walk-in coolers, freezers, and milk-cooling equipment; Kelvinator—Frank Bitz demonstrated new internally-mounted sealed con-

densing units and window air conditioners.

Virginia Smelting Co.—Tom Allan presented demonstrations of degreasing solvent, "Permagum," "Presstite" insulating tape, "Solve," and ice machine cleaner; Linde Air Products Co. and Grady's Welding Supply—John Hagan and "Mac" McDermott showed how to solder stainless steel and aluminum using "Prest-O-Lite" equipment; Kelvinator water coolers—Arthur Bezer displayed models of water cooling equipment, including a cut-away model.

Bonney Tool Works—Philip Gahm exhibited a large display of refrigeration tools; The McIntire Co.—"Micky" Meiklejohn displayed a new demonstrator showing causes and effects of moisture in refrigeration systems; Brunner Mfg. Co.—"Bill" Cashin showed condensing unit line, semi-hermetic Brunner unit, and package air conditioners.

Philco Corp.—"Jim" Black displayed 1954 line of Philco window air conditioners; American Gas Machine Co.—"Kirk" Kirkpatrick showed the line of "Scotsman" automatic ice cubers and ice flakers; Koch Refrigerators—"Ed" Stiller displayed a new type of vegetable and dairy case, beverage display cases, and school lunch equipment.

Coldin Cabinet Co.—"Bernie" Schneider and Leon Krause showed sliding door display cases, frozen food check-out counter display



Service & Supplies

cases, and custom-built walk-in coolers; Freez-King Corp.—Dory Brown displayed a new custard frappe machine; Frigid Units, Inc.—presented operating display of milk cooler—drop-in units for 4, 6, 8-can capacity.

TALKS BY INDUSTRY MEN

Following luncheon at the Oakledge Manor, the afternoon session was opened with greetings by Harold A. Thompson, vice president of Blodgett Supply. Hagan (Linde Air Products) then presented a special message to servicemen.

Also on the program were talks by Bezer (Kelvinator water cooler division), Kirkpatrick (American Gas Machine), Bitz (Kelvinator), Black (Philco), and Taylor (Alco Valve).

Bezer discussed product, sales potential, and service on self-contained water coolers; Kirkpatrick reported on the trend of automatic ice cube makers in today's market; Bitz covered application and service problems on internally-mounted sealed units; Black talked

on room air conditioner application, installation, and service; and Taylor presented a film on automatic refrigerant controls.

In other talks, Cavanaugh (Bush) told of product application and installation of forced air cooling units; Soderberg (Owens-Corning) demonstrated actual construction principles in building walk-in coolers; Langan (White-Rodgers) discussed refrigeration controls and their proper application; and Harold Cann (Esco Cabinet) spoke on the trend of the milk cooling industry in the coming years.

Next, a warehouse buffet supper was served, after which visitors had time to look over the displays again before the tube bending contest was staged.

Coldtemp Opens New Quarters

DALLAS—Coldtemp Automobile Refrigeration Co. has opened an installation and service center and general offices at 801 North Pearl. The firm has a factory at 9217 Weiss and an Oak Cliff service center at 1400 East Jefferson.

Years ahead!

Compact "package" lets you install tomorrow's comfort today



Mueller Climatrol NEW COMPANION UNITS
BRING YOU ADDED BUSINESS
NOW—ON YEAR-AROUND HEATING AND COOLING



Type 904
Self-Contained Cooling Unit
— For installation in stores, restaurants, etc. — or with duct systems in homes with radiator or radiant heat. Complete refrigeration system with blower and filters. Can be installed with steam coil for heating. Available with discharge grille, or can be used with duct-work. 2, 3, 5, and 7 1/2 hp.

Once again, Mueller Climatrol has responded to your needs. The new companion winter-heating and summer-cooling units permit you to sell the right size in both heating and cooling units, irrespective of climates.

The heating unit shown at left above is available in four sizes — 80,000, 100,000, 125,000 and 150,000 Btu input. The type 906 cooling unit, at right above, is available in 2-hp and 3-hp sizes. Each size of the heating unit may be interchanged with either of the cooling models—thus giving you real flexibility.

You can offer prospects the last word in comfort with new Mueller Climatrol

engineering — new efficiency . . . new, attractive styling . . . new, handsome Mountain Spring Green finish.

You can talk cleaner living . . . better health . . . more convenience . . . less depreciation . . . greater comfort.

Write for further information on why you can count on Mueller Climatrol companion units to turn more prospects into buyers.

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READY FOR THE TEST?

You're ready for any test if you have these Marsh "Serviceman" instruments. They all share in those commendable Marsh family traits — precision, ruggedness, honest quality, remarkable value. Notice the new models . . . and the new "Serviceman" Timer! Remember:

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<p>Serviceman</p> <p>TESTING THERMOMETER</p> <p>Handsome new model of standard, distant-reading testing thermometer. Tests to 40 below. Tube is now made permanently leak tight by Marsh "Conoweld" process. Recalibrator now in back of case for easy access.</p> 	<p>Serviceman</p> <p>TESTING GAUGE SET</p> <p>Great team of extremely accurate testing gauges in handsome polished brass cases with beveled glass crystals. Rings readily unscrewed for quick access to recalibrator. Note retard scale on compound gauge for close reading in important testing range.</p> 
<p>Serviceman</p> <p>DE LUXE 3-SCALE</p> <p>Like the standard model above, but has two added, color-differentiated scales showing corresponding pressures of Freon 12 and Freon 22. A beautiful instrument; a real time saver.</p> 	<p>Serviceman</p> <p>4-SCALE TESTING GAUGE</p> <p>Three extra color-differentiated scales in this accurate testing gauge show temperature corresponding to pressure for sulphur dioxide, methyl chloride and Freon. Ranges for all needs.</p> 
<p>Serviceman</p> <p>TIMER</p> <p>Useful new arrival in "Serviceman" family shows total running time and total elapsed time of refrigerating unit on 24-hour dial. Easier to use and read than expensive recorder; costs far less. Two models cover all conditions.</p>  <p>MARSH INSTRUMENT CO. Sales affiliate of Jas. P. Marsh Corporation Dept. D, Skokie, Ill.</p>	<p>Serviceman</p> <p>POCKET THERMOMETER</p> <p>Highly accurate; easy to read; equipped with swivel to hang in refrigerator or clip in your pocket.</p>  <p>MARSH Refrigeration Instruments</p>

What's New

When requesting further information on new products, please use "Information Center" form.

Janitrol Introduces New Commercial Unit

—KEY NO. D-620—

COLUMBUS, Ohio—A new free-standing, self-contained summer air conditioner cooling unit for use in offices, restaurants, taverns, stores, and other commercial establishments has been introduced here by Janitrol Div. of Surface Combustion Corp.

The unit, the Janitrol Type "F" commercial cooling unit, is one of a series of cooling conditioners announced early in 1954.

The new conditioner is a commercial counterpart to the Janitrol residential summer air conditioners. Available in 2, 3, and 5-ton cooling capacity conditioners, the units have additional features.

Janitrol engineers have added an air intake and glass fiber filter assembly at the base of the commercial unit. Adjustable louvers in the outlet diffuser at the top of

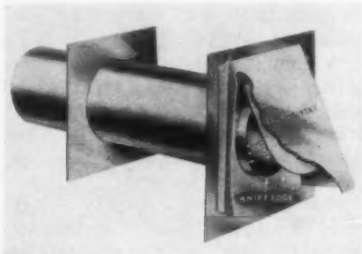
the unit direct air both vertically and horizontally into selected spots for balanced comfort.

The compact unit is enclosed in a steel cabinet finished in a new neutral blue-gray tone that blends harmoniously with every decorative scheme, according to Janitrol. The cabinet stands 88½ in. high, 26 in. deep, and varies in width from 26½ to 40½ in., depending on the size of the cooling unit.

"Heavy glass fiber acoustical material further sound-deadens an already exceptionally quiet commercial cooling conditioner," it was pointed out. "The glass fiber also serves as a heat insulation and helps prevent moisture condensation on the cabinet."

Incorporated in Janitrol's design for the Type "F" cooling conditioner is a one-piece chassis to facilitate installations, servicing, and repairs.

A major feature of the 5-ton unit is a two-step arrangement which permits the 3-ton section to operate initially, providing comfort by dehumidification. When peak load demands maximum cooling, the 2-ton section cuts in.



Prices Reduced on New, Improved 'Laund-R-Vent'

—KEY NO. D-621—

ST. PAUL—A new, improved model of "Laund-R-Vent," automatic moisture vent for clothes dryers, and new lower prices, have been announced by Cole-Sewell Engineering Co. here.

According to H. J. Sewell, Cole-Sewell, president, the company has incorporated exclusive engineering design and operational features in the improved Laund-R-Vent.

"The friction-free damper positively retards down draft, making for free venting to the outdoors," he stated. "There can be no formation whatsoever of ice which causes closure of the vent and stoppage of free operation in winter. And, the all-aluminum construction insures against rust."

Prices for Laund-R-Vent start at \$1.95 to the trade. Complete Laund-R-Vent "kit" includes the vent itself, three 23-in. lengths of aluminum pipe, and two adjustable elbows. Special kits are available.

Dispenser Serves Club Soda and 4 Other Flavors



—KEY NO. D-622—

NEW YORK CITY—A new five-way beverage dispenser that will serve club soda and any of four other flavors of drink has been introduced recently here by Club-Bar, Inc.

Called the Club-Bar, the dispenser measures only 16¼ by 16¼ by 41 in. Entire cabinet is stainless steel. Two stainless steel beverage faucets meet the requirements of the New York City department of health, according to Ted Seidel, president.

Made for Club-Bar by Temprite Products Corp., the unit features the Temprite instantaneous heavy-duty "Carbo-Cooler," a ½-hp. high torque Tecumseh hermetic unit using "Freon-12," a "Procon" rotary pump with G-E motor, and a model 3M "Everpure" water purifier.

Seidel said that the unit will serve any of four flavors continuously, uniformly, and proportionately mixed with carbonated water, or serve carbonated water by itself.

It will produce 240 6-oz. glasses per hour at 70 to 75° F. inlet and 40° F. outlet. Carbonated water at 4.2 volumes mixes drinks at 3.5 volumes at 38 to 40° F. It will produce 6,440 glasses of highly

carbonated water from a 20-lb. tank of CO₂ gas.

A self-rinsing faucet with positive shut-off and automatic flush back of syrup lines from the front of the faucet are sanitary features. The flush back is accomplished without shutting off the soda or disturbing the Brix setting (sweetness) of drinks.

A syrup pressure manifold assembly is furnished complete for attaching to syrup tanks. The tanks are not furnished. Shipping weight of the unit is approximately 275 lbs.

List price of the model 4SC, which is equipped with two three-way faucets, is \$1,096 f.o.b. Birmingham, Mich. Price of the model 2SC with one three-way faucet is \$996, f.o.b. Birmingham.



Every Small Store Operator Wants This

LIFETIME PORCELAIN Self-Service Case

This Pinnacle Double Duty Case will keep all fruit and produce green and saleable. What's more—freshness and quality are maintained for long periods. Then too, it will go through a 36" doorway! Exterior front, ends, and wearing surfaces of gleaming white lifetime porcelain. Both citrus fruit and leafy vegetable sections flooded with bright, modern, fluorescent lighting. Low operating cost. All shelves scientifically refrigerated. Comes in 6, 8, and 10-Foot Lengths. Single Duty Cases also available, as well as self-contained models. WRITE TODAY FOR 4-COLOR FOLDER!

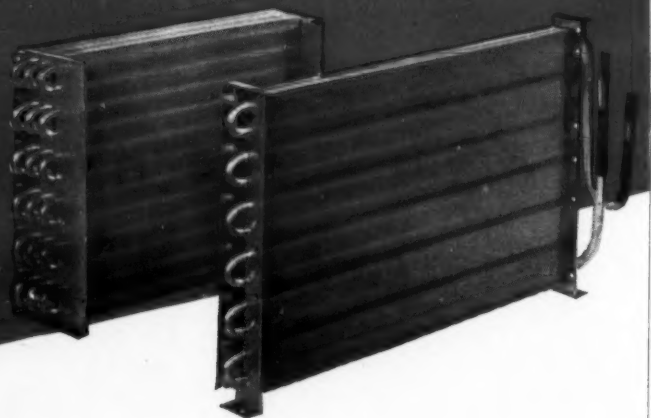
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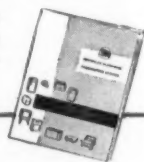


During the past year, Reynolds Aluminum Fabricating Service has engaged in important development work with industry people and is now tooled up for production of all-aluminum room cooler evaporators and condensers. Aluminum fins and aluminum tubing prevent bimetallic action which frequently occurs when fins and tubing are made of dissimilar metals. Reynolds wide experience in refrigeration as one of the nation's leading producers of parts for this industry—plus Reynolds skill, mass-production facilities and quality control from mine to finished product—assures production of all-aluminum evaporators and condensers to quality standards exceeding industry requirements.

Reynolds engineers will be glad to work with you in designing aluminum parts for your present or future room cooler models. For full details, contact the Reynolds office listed under "Aluminum" in your classified telephone directory, or write Reynolds Aluminum Fabricating Service, 2053 South Ninth Street, Louisville 1, Kentucky.

FREE:

Write for your copy of "Aluminum Appliance Parts"—16 page brochure that describes the services offered by Reynolds Aluminum Fabricating Service to the appliance industry.



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What's New (Con't)

Evaporative Cooler for Auto Priced at \$99



KEY NO. D-623

N. SACRAMENTO, Calif. — A low-cost automobile evaporative air conditioner that can be installed in 20 to 30 minutes by the average car owner has been in-

troduced by the Spitzka Mfg. Co. Known as the "Thermo-Cool Conditioner," this new car cooler sells for only \$99, and costs nothing to operate because it requires no connection to the car's electrical system, the company said.

The cooler operates on a simple power take-off from the car's fan belt, transmitted by heavy duty pulley and oversize flexible cable, capable of maintaining a sustained load three times greater than actual requirements.

An automobile clutch arrangement compensates for high driving speeds, delivering a uniform volume of air circulation at all times. A complete change of filtered, washed, cool air is provided every 30 seconds.

Additional features include: lifetime sealed ball bearings, aluminum turbine blower, high-volume brass water pump, and resinol impregnated kraft filter pad.

Materials are heavy gauge throughout, and the entire system is rust-and-alkali-proofed.

Cooling efficiency is indicated by actual tests in the southwest which show that with a temperature of 110° inside the car at ceiling level, air from the cooler will be a consistent 72°. The water storage capacity is sufficient to require filling only once in four hours, even with constant driving in extremely hot, dry areas, the company said.

The cooling unit is mounted under the dash, on the passenger side. It is out of the way, leaving ample leg room, the company asserts. Adjustable louvers are within easy reach of driver or passenger to provide control of air flow direction.

Shipping weight is 30 lbs. and each unit is packed with a clutch mounting bracket to fit all makes of autos, and easy-to-follow installation diagrams.



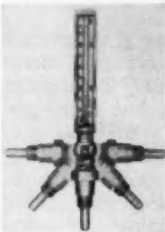
Stop service calls . . . keep out rust and sludge . . . open new doors to sales acceptance!—with coolers, ice-makers, sell "Taste-Master"!—checks chlorine, traps sediment; promotes service-free satisfaction with all water processing appliances. Write—

Filtrine MANUFACTURING CO.
BROOKLYN 38 • N. Y.
"Water Coolers and Filters for 40 Years"

Thermometer Adjusts to Any Angle In 180° Arc

KEY NO. D-624

NEW YORK CITY — Any required angle, front to back, left or right, through an 180° arc can be obtained with the new Weksler "Adjust - Angle" industrial thermometer introduced recently by the Weksler Thermometer Co. here.



Such an angle can be obtained before, during, or after installation by the adjustment of a lock nut, the company said.

Unique feature of the Adjust-Angle industrial thermometer is the use of a flexible metal capillary within a specially designed ball connection which permits adjustment of the stem or case to the

desired position, the company explained.

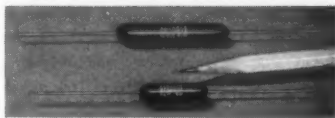
This is made possible by the positive fusion of the metal capillary and the glass members of the unit, resulting in a rugged instrument that will withstand 40 or 50 angle changes without injury to the thermometric system.

Built to U. S. Navy specifications, these highly accurate little thermometers take up very little space in application. Thermometer case is only 6 1/8 in. long and 1 1/8 in. wide, while the stems are about 3 1/4 in. long. Brass, naval brass, or monel sockets are made in 3 1/4 and 5 1/4-in. sizes.

Thermometer ranges are from -40° F. to 110° F., 30° F. to 300° F., and 200° to 500° F.

List prices range from \$18.50 for a brass unit with 3 1/4-in. socket to \$27.50 for a monel unit with 5 1/4-in. socket.

Sprague Electric Offers Miniature Power Resistors



KEY NO. D-625

NORTH ADAMS, Mass. — Two miniature self-mounting wire-wound power "Blue Jacket" resistors for use in TV and industrial electronic production where space is a factor have been an-

nounced by Sprague Electric Co.

These new axial-lead vitreous enamel resistors, Types 27E and 28E, are designed specifically for applications where reliability is of prime importance and for point-to-point wiring, terminal board mounting, and processed wiring boards, fitting in dip-soldered sub-assemblies.

In addition, they will meet humidity performance requirements of RETMA and MIL specifications.

300 g.p.h. Receiver Tank Has Sump Pump Control

KEY NO. D-626

CAMDEN, N. J. — A new receiver tank with sump pump and control has been announced by the Flight Mfg. Corp. here for use as a condensate receiver for air conditioning units and dehumidifiers.

A self-contained unit with all openings on one side of the tank, it can be hung on the wall or placed below floor level, the company said.

All openings have rubber grommets and the tank has a lid to prevent foreign matter from entering the pump.

Powered by a 1/80-hp. motor with bronze pump, it has a capacity of 300 g.p.h. Control is a Penn double float switch. The tank measures 6 1/4 by 8 1/4 by 13 in. high and is made from 22 gauge "Zincgrip" Bonderized metal, zinc chromated with aluminum finish.

The manufacturer says the tank is not affected by mild chemicals, hot water, detergents, or oils. Dealer price is \$39.20 f.o.b. Camden. The units are packed six to a carton weighing approximately 90 lbs.

Other uses for the tank are as liquid receiver for bars and tap-rooms, and as circulator for light cutting oils and non-corrosive liquids.

Sole agent for the tank is the Larith Co. here.

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THE ONE PROVED BY 3,000,000 IN SERVICE

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THE ONE WITH THE EXCLUSIVE CONE SCREEN FILTER

The cone screen filter of Mueller Brass Co. Deluxe Driers is a patented filter-strainer unit filled with chemically cleaned pure wool. And the filter area has been increased 30%, providing a cleaning capacity approximately seven times that of the usual disc.



THE ONE THAT REALLY REMOVES MOISTURE AND ACIDS

. . . AND ALWAYS HAS! PA 400 Super Silica Gel, a new, more effective desiccant in Mueller Brass Co. Deluxe Driers, provides up to 98% more drying capacity. In addition, PA 400 not only removes moisture that may cause formation of acids in a system but also removes these acids if they are already present prior to the installation of the drier.

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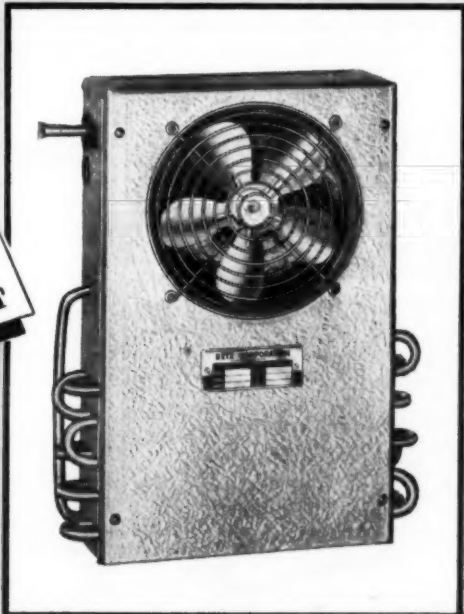
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Control Systems—2

Factors In Selecting and Locating Air Conditioning Controls
Outlined for U. S. Air Force Engineers' Conference

Editor's Note: This is another instalment in the series presenting the papers given at the recent Refrigeration & Air Conditioning Engineers' Conference held by Headquarters, United States Air Force at the Pentagon in Washington, D. C.

Previous articles discussed "Load Calculations," "Equipment Selection," and "Equipment Arrangement" for a typical Air Force structure—a synthetic flight trainer building.

Appearing below is the second instalment of a talk devoted to "Control Systems" for air conditioning.

By Joseph H. Broome, Executive Assistant to Vice President,
Minneapolis-Honeywell Regulator Co.

The ever growing importance of automatic control is evidenced by the fact that few, if any, manufacturers of heating or air conditioning systems design their equipment except in consultation with the control manufacturer. In the same way, the engineer is finding that controllability is best considered in the planning stage. He is finding that a system designed according to good control principles requires a simpler control system.

What are these principles? What are the requirements for high-quality control? Let's take a look.

1. Automatic controls can sense

temperature pressure or humidity only at the point of measurement and location.

We have previously seen how temperature and humidity are measured, and, knowing this, we can readily appreciate the foregoing statement. But temperature as measured at the thermostat location may not necessarily be representative of that in the space. This is especially true if we locate a thermostat where it can receive sun effect, or in close proximity to a discharge outlet, or upon an outside hot or cold wall, or where hot or cold pipes may be embedded behind the wall.

You say, let's use a return air controller and avoid all these booby traps. Your installation costs will run less, but there are other factors that must be considered. For example, return air ducts may have been run uninsulated through hot or cold ceiling spaces, thereby causing the measured air to lose or gain heat. Or your air changes may be only three or four per hour, causing a slow, wide hunting action. Or your coils may be oversized, causing a rapid cycling action. How then can we apply this first principle.

First, the controllers must be located properly. They must, as we have noted above, measure the variable they are intended to control. Space or room controllers are preferable when they can be installed where they measure a condition representative of the whole space. However, if such a spot is impossible to find, the controller can be located in the return air duct as near the space as possible, being sure that they are in an unstratified air mixture.

Second, the physical arrangements of the system should be such that it permits suitable location of controllers. For example,

it is important to place a discharge controller in a representative unstratified mixture of the leaving air stream. Coils should not be placed "back to back" if a controller must be located between them.

Third, components of the system should be arranged in an order to permit control. For example, humidifiers usually should be located downstream from a source of heat, and reheat coils should be located downstream from cooling coils.

Good Air Distribution Essential

Fourth, a good distribution system is necessary to deliver air to the space. For example, ductwork should be extended to all parts of the space. Ductwork should be insulated if it runs through a space where the temperature is much different from that of the air within the duct. Return air coils should be located where they will aid in distribution and eliminate short circuiting of the air supply.

Fifth, good diffusers should be used at the outlets to the space. Low ceiling diffusers should not blow directly downward and several small diffusers are better than one large one.

What about the second principle?

2. Automatic controls cannot maintain conditions beyond the limits of the cooling equipment as determined by coil temperature, air volume, etc.

What we are trying to say is that automatic controls cannot make up for under-sized coils or air-handling equipment. They cannot make up for poor zoning or no zoning at all. They cannot make up for fluctuating steam pressures nor failure to provide modulation of cooling or heating capacity.

How then can we apply this second principle?

Equipment Must Be Properly Sized

First, the cooling and refrigeration equipment must be properly sized and selected. This has been so thoroughly covered in the previous discussion that I will say no more, other than to urge you to investigate the desirability of dividing the cooling capacity amongst several coils rather than have it in one, to provide reheat where maintenance or relative humidity is a critical factor, and to prevent short cycling of compressors under light loads, through any one of a number of methods available to you.

Second, chilled water control valves and steam valves should be properly sized. Modulating valves especially should not be oversized. This is extremely important, irrespective of line size.

Third, means of eliminating stratification in the duct must be provided. Pull-through or blow-through fan systems should be selected depending on where mixing is most critical. Outdoor and return air dampers should direct the air stream towards each other. Again, the system should be separated into areas of like load requirements to permit separate control of each area.

And another point that should be brought out is that a system with constant air volume and variable air temperature is usually superior to a system with variable air volume.

System Determines Lag

The third principle is:

3. Automatic controls cannot maintain conditions beyond the limits set by the system lag.

Here again a well designed system will avoid this. Lag, as you know, is the time elapsing between the controller response and the time the controller feels the effect of the response. For example, a thermostat may call for cooling by starting a compressor, but there may be a considerable length of time before cooling effect is obtained and sensed at the thermostat.

I hope that a presentation of these three basic principles has shown that the automatic control system must be planned as an integral part of the complete air conditioning system and that it is not something that can be tacked on as an afterthought.

Finally we come to the design of specific control systems utilizing the controllers' actuating media and principles that have been previously outlined. For this purpose it is necessary to review first some of the more basic systems. Essentially this can be accomplished by outlining the control system schematically and then listing the features and the conditions for successful operation.

On-Off Control

Fig. 19 illustrates on-off control of a direct expansion coil solenoid valve. Its features are:

1. The space thermostat oper-

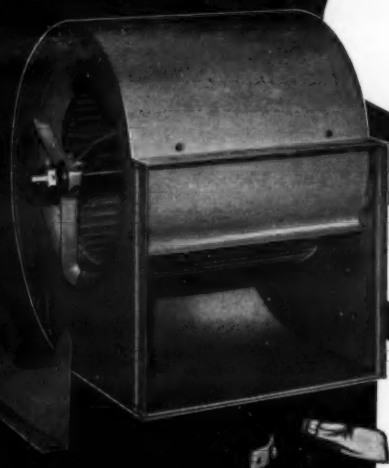
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- Eliminates special blowers for each application.
- Simplifies order procedures and stock control.
- Enables you to more quickly handle model changes in production.
- Solves many other problems that can cause production delays.
- A more compact package (26 1/2% smaller) that reduces warehouse space.
- Lowered handling costs, particularly for parts buyers.

Here is a new and practical way to reduce your blower inventory as much as 50%—and eliminate slow-moving stocks. Lau Series "A" ECONO-PAK Blowers cover 95% of the blower applications for residential air-moving equipment.

This unit in two basic sizes (each size available in two widths) incorporates all the standard Series "A" features and offers possible savings of as much as 10% per unit.

The reasons for these economies are:

1. The two housing supports and the motor mount bracket are not attached to the unit, but are included in the package with all necessary hardware. You can quickly and easily adjust the discharge to any one of five positions.
2. By the use of exclusive LAU-PAK Bearings, without oil cups and requiring no lubrication, you can adjust the discharge angle at will, without the oil cup problem.

For Present Users of Parts—this "package" will replace expensive inventories of many unassembled parts.

For Buyers of Complete Assemblies—this unit gives you adequate, flexible stock of blowers suitable for many applications—with minimum labor.

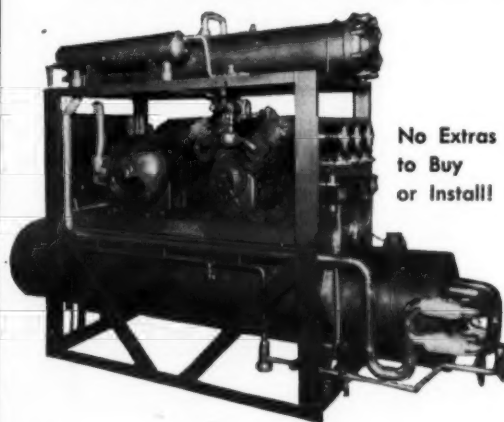
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All components in one low-cost single unit—motor, starter, full Freon charge, Thermatrol capacity regulator—everything! Designed for standard conditions: 35° or 40° suction, 55° water on, 45° water off. Simple hookup and balancing, 10-20-30-40-50-60-ton capacities standard. Ideal for multi-zone construction and year around systems. One order does the job! Write for engineering data.

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SCHNACKE, INC.

Evansville
Indiana

Features of Controls Explained--

(Continued from preceding page)

ates the refrigerant solenoid valve and the non-restarting relay so that the compressor "pumps down" on each "off" cycle.

2. The non-restarting relay prevents possible short cycling of the compressor during the "off" cycle.

Conditions for successful operation are as follows:

1. This system should not be used where fairly large swings in temperature and relative humidity are objectionable.

2. The differential of the thermostat should be set fairly wide to prevent short cycling of the compressor under light load.

3. If controlled relative humidity is desired, reheat must be provided. Fig. 20 illustrates two-position control of a direct expansion coil solenoid valve and modulating control of a face and by-pass damper. Its features are:

1. The proportions of air passing through and around the coil are varied by modulating face and by-pass dampers.

Conditions for successful operation are as follows:

1. Capacity control of refrigeration may be necessary if short cycling under light load is to be avoided.

2. It is usually necessary to adjust the face damper so that it does not close completely, to prevent frosting the coil under light load.

3. If controlled relative humidity is desired, reheat must be provided. Fig. 21 shows how to control a return air by-pass system. This particular sketch is incorporated in Air Force Regulation 91-8 and illustrates a very simple and effective control system for this particular type of layout.

Use of Reheat

Fig. 22 illustrates the use of reheat so that dehumidification may be controlled as well as temperature. Here we have a space humidity controller operating a refrigerant solenoid valve to the direct expansion coil in a two-position manner to maintain the desired space relative humidity. A space thermostat can also operate this valve to maintain space temperature. However, should the humidity controller be calling for cooling in order to dehumidify, the space thermostat will modulate the heating valve to reheat the air as necessary to maintain space temperature.

Fig. 23 illustrates use of a reheat system with electric controls as set forth in Air Force Regulation 91-8. Here again we have a very simple, but effective, method of control.

Specifications of Motion Picture Service

Figs. 24 and 25 are taken from specifications issued by the Army and Air Force Motion Picture Service. These control systems have several features which are especially interesting. For example, economizer control in mid-season operation is effected by permitting the winter return air thermostat to first close the heating valve on a rise in temperature and then operating the maximum fresh air dampers toward their fully opened position to effect cooling by maximum use of outdoor air.

Other features include the use of a low limit in the winter to prevent discharge of air at a temperature that would be so cold as to cause uncomfortable drafts. You will also notice that reheat is incorporated for summer operation in order to maintain proper control of dehumidification and that minimum and maximum outdoor dampers give effective control over the amount of such air introduced into the system at all times.

In Fig. 24 the fan system is arranged for mixed air by-pass. Here you see a very simple, but effective, use of controls to operate a modulating-type steam valve in the wintertime or to modulate dampers to allow air to go through or to by-pass the cooling coil or coils in the summertime.

Controls for Theater Air Conditioning

Here is a description of the theater year-round air conditioning control system contained in the specifications of the Army and Air Force Motion Picture Service:

"This system shall be fully automatic for cooling, heating, and ventilation except for manual change-over from the cooling to the heating cycle and vice versa.

"Section I: Automatic Temperature and Humidity Control System.

"General: To place the fan in operation provide an on-off push-button switch and bull's-eye light panel in the office to energize the fan circuit. All control circuits will be energized from the load side of the fan starter. The minimum fresh air damper and the minimum exhaust damper will be fully open when the fan is in operation and all dampers (maximum and minimum) fully closed when the fan is not in operation. The temperature

(Continued on next page)

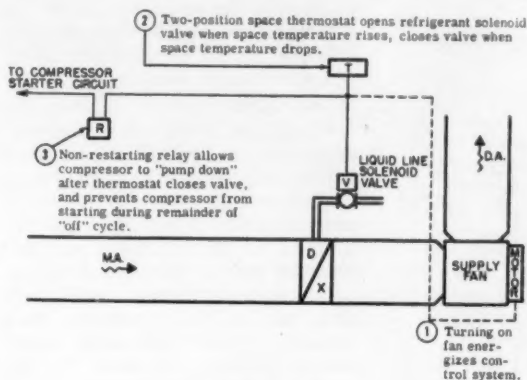


FIG. 19

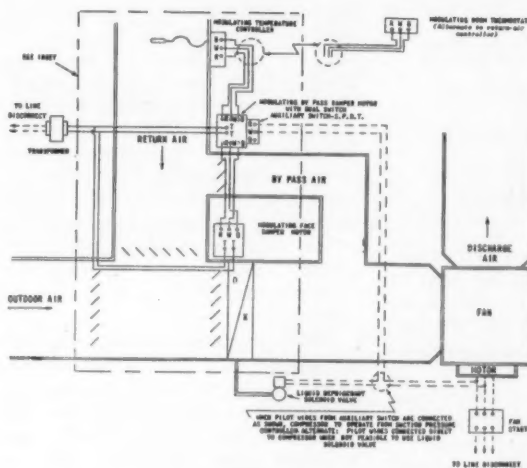


FIG. 21

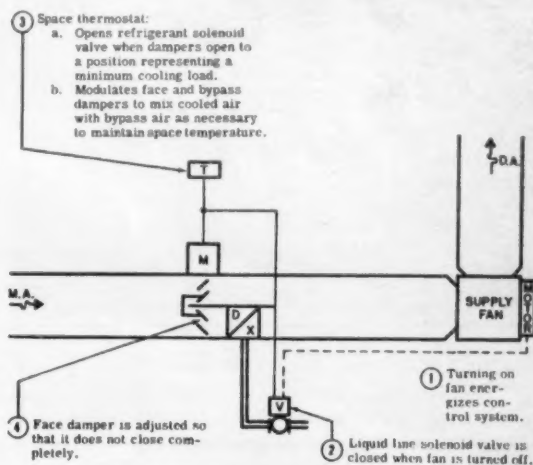


FIG. 20

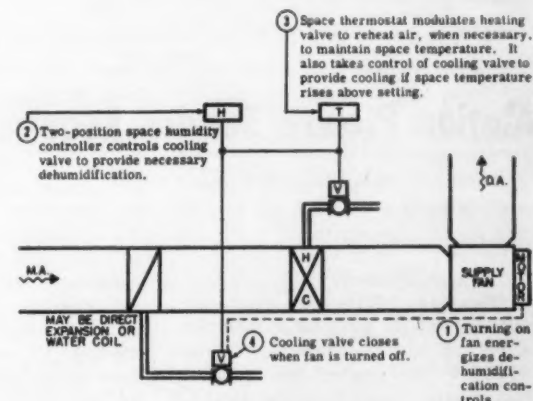


FIG. 22

FEDDERS

wanted

... a superior filter
... from a reliable supplier
... known everywhere,
available everywhere

so Fedders chose ...

AMER-glas

AIR CONDITIONING FILTERS



LOOK AHEAD TO BETTER QUALITY—WITH AAF!

AAF engineers will work closely with your staff in designing filters of special size, and with custom features to give you better performance. Your product deserves the best... insure it with AAF-engineered AMER-glas FILTERS!

In selecting the right filter for its room air conditioners, Fedders laid down the clear-cut requirements above. Tough requirements, perhaps—but routine problems for American Air Filter. Among the new filters needed were those for Fedders new 3/4 ton model De Luxe Room Air Conditioners. Our answer—the AMER-glas twin filters shown above. They give improved performance by providing greater filtering area for the twin evaporators of this Fedders unit.

Convinced of AMER-glas superiority, Fedders then asked, "What about your national distribution—a 'must' in serving Fedders users everywhere. And what about AAF volume production facilities?" The prospective customer toured the new AMER-glas filter plant—the country's most modern... and probed AMER-glas distribution among air conditioning contractors and service firms. Again, the answers came up: "AMER-glas". Today, we are turning out filters in quantity for Fedders Room Air Conditioners, to the customer's utmost satisfaction.

Planning an improved product? Why not improve the filters, too! A discussion with AAF filter experts will not oblige you in the least. Write today!



American Air Filter COMPANY, INC.
109 Central Avenue
Louisville 8, Ky.

KRAMER RADIAL



2,500
to 23,000
BTU/HR

The original Circular Ceiling

Unit! An exclusive KRAMER development
that has no equal. Built-in Heat Exchangers.

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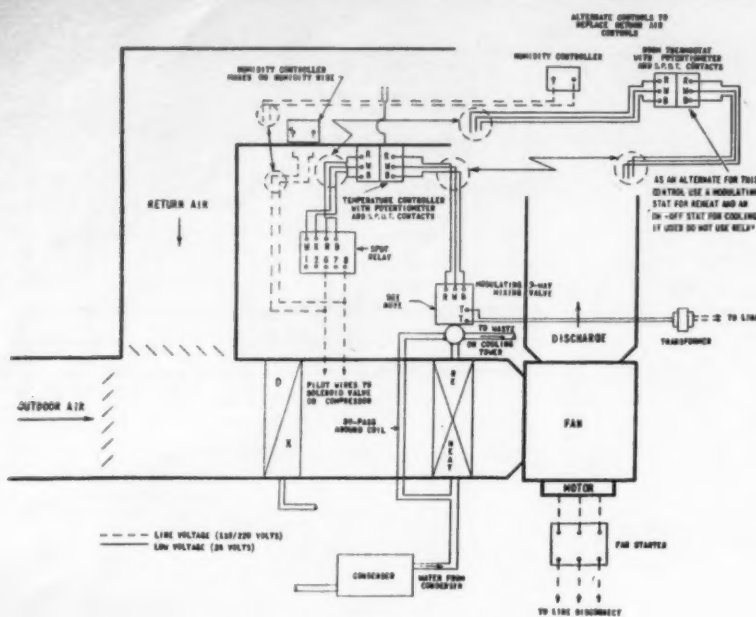


FIG. 23

Motion Picture Service Requirements--

(Continued from preceding page) control setting for the fan system will be 72° for winter and 78° for summer.

"Reheat System:

"Heating: With the summer-winter switch in winter position, a return air thermostat, T1, set at 72° F. will control the modulating steam valve for the heating coil to maintain this temperature, subject to a low-limit thermostat

T2 in the discharge air set at 63° F. When the demand for heat at T1 is satisfied and the steam valve is fully closed controller T1 will modulate the maximum outdoor air damper motor to open its damper subject to low-limit thermostat, T2, as the room temperature rises, and to close gradually as the room temperature drops. The maximum exhaust damper motors will position their dampers

in exactly the same proportion as the maximum outdoor air damper and the return air damper motor will position its damper in exactly the reverse.

"Cooling: With the summer-winter switch in the summer position the control point of the return air thermostat, T3, set at 78° F. shall maintain this temperature by opening or closing the liquid line solenoid valve. Refrigeration capacity control circuit shall maintain the suction pressure at a pressure which has been determined as most efficient. The humidity controller, H1, in the return air shall also open or close the liquid line solenoid valve as the humidity rises above or falls below its control point at 55% r.h. H1 shall be able to open the solenoid valve although T3 does not call for cooling but it shall not close the solenoid whenever T3 calls for cooling. Should the temperature in the space fall below the setting of the summer temperature controller T3, when T1 calls for cooling, then T3 will operate a three-way modulating valve to pass more or less condenser reheat water through the water reheat coil to maintain its setting.

"The maximum fresh air and maximum exhaust air damper will remain fully closed in the summer position and the steam valve will remain closed. The liquid line solenoid valve shall not open unless the fan circuit is energized.

(To Be Continued)

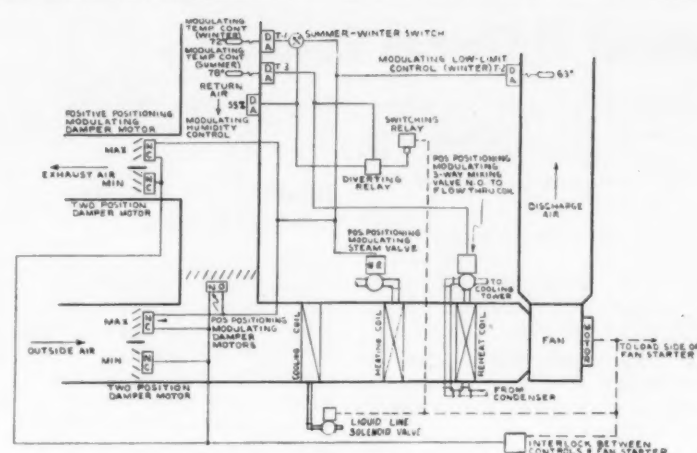


FIG. 24

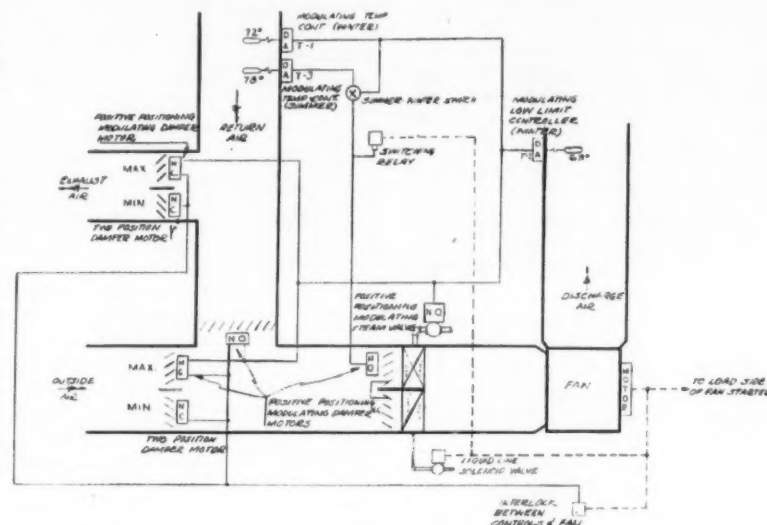


FIG. 25

As the market for air conditioning grows so much bigger

12

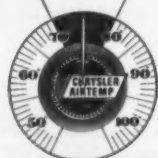
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by CHRYSLER AIRTEMP give its dealers exclusive selling advantages!

- "Packaged" Air Conditioner compact, self-contained, it revolutionized the air conditioning industry.
- High-Speed Sealed Radial Compressor super-quiet, super-efficient, more cooling from fewer pounds of metal.
- Combination Heating and Cooling for Year 'Round Residential Air Conditioning a balanced combination of heating and cooling equipment, providing conditioned air for the entire home every month in the year.
- Central Station Radial Compressor uses less space, more quiet operation. Costly foundations eliminated.
- Starting Unloader and Capacity Regulator compressor starts without load, capacity automatically adjusted to varying loads at all times.
- Maxi-Fin Cooling Coil a vital improvement in "Packaged" Air Conditioners greater efficiency.
- "Airfoil" Grille quietly provides unlimited air distribution adjustments vertically and horizontally.
- Re-Circulating Water Saver permits re-circulating and cooling condenser water without make-up.
- Air-Cooled Air Conditioning operates without water at peak efficiency, solves all problems of water supply and expense. Costs less to install because it does not require plumbing.
- 5-Year Compressor Warranty covering replacement, freight and labor... made possible by fine record of the exclusive Radial Compressor.
- High-Capacity Car Air Conditioning gives motorists a quicker "cool down" on hot summer days.
- Casement Window Room Air Conditioner installed inside without removing glass or cutting frame; nothing interferes with operation of window.

IT PAYS
TO SELL
with the
LEADER!

Comfort Zone



CHRYSLER AIRTEMP

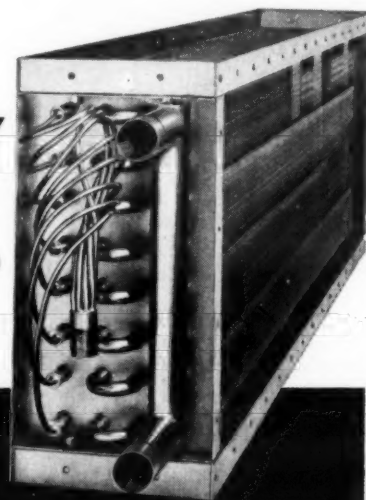
HEATING • AIR CONDITIONING
FOR HOMES, BUSINESS, INDUSTRY

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for any air direction

Tenney AC4 COILS

with Universal Suction
Connections



Standard, 4-row, AC4 Coil for air conditioning of stores, homes, and offices... wherever built-up systems are used with or without duct distribution. Available in 5 capacities in 11 popular sizes with F-12, F-22 refrigerants.

Tenney AC4, standard 4-row air conditioning coils are the perfect, standardized line of direct-expansion coils. Construction includes 3/8" O. D. copper tubing; Facetized Fins for greater heat transfer; heavy-gauge steel top, bottom, and end plates (aluminum on request); all copper suction headers; high-temperature, hard solder tube joints; and inert atmosphere inside tubes for clean, scale-free refrigerant passes.

These Tenney AC4 Coils can be sold and installed with complete confidence for any air direction, through universal suction connections. Like all Tenney products they're backed by sound engineering and quality workmanship that guarantees easy installation and customer satisfaction. Ask for Bulletin 103-54.

APPLICATION DATA										
Model No.	Nominal Tons	Subsidiary Connections	Surface Connections	Flared Inlet	Flared Outlet	DIMENSIONS			Face Area Sq. Ft.	Approx. Cfm.
AC4-3A	3	1/2" O.D.	1 1/2" O.D.	3/8"	7/8"	31 1/2"	15 1/2"	3"	1.81	750
AC4-3B	3	1/2" O.D.	1 1/2" O.D.	3/8"	7/8"	31 1/2"	15 1/2"	1 1/2"	1.58	750
Complete range of models and sizes										
AC4-7 1/2 C	7 1/2	1 1/2" O.D.	1 1/2" O.D.	3/8"	7/8"	45 1/2"	45 1/2"	1 1/2"	8.83	3500
AC4-10A	10	1 1/2" O.D.	1 1/2" O.D.	3/8"	7/8"	45 1/2"	45 1/2"	1 1/2"	7.58	3750
AC4-10B	10	1 1/2" O.D.	1 1/2" O.D.	3/8"	7/8"	45 1/2"	45 1/2"	1 1/2"	7.50	3750



Tenney ENGINEERING, INC.

1090 SPRINGFIELD ROAD, UNION, N. J.
Plants: Union, N. J. and Baltimore, Md.

Engineers and Manufacturers of Refrigeration and Environmental Equipment

SLANTS ON SERVICE

"Slants on Service" is a "package" devised by the NEWS to meet the needs of its busy readers in the service and contracting business.

Factors In Planning Treatment of Water

"The specific use of water for evaporative condensers, cooling towers, evaporative coolers, and other water recirculating equipment for refrigeration and air conditioning equipment is rapidly beginning to assume major importance to water works operators who are conscientiously striving to promote a product for consumer usage," comments Edward J. Ross, chief chemist of the Garman Co., Inc., St. Louis.

AIR CONDITIONING WATER USE HAS BECOME PHENOMENAL

"A safe, palatable water suitable for human consumption is and should be the prime requisite of good water works management. However, management, due to its knowledge and experience, should be cognizant of the ever changing needs and requirements for his product as well as his services. Quantity of water used in refrigeration and air conditioning equipment is phenomenal in recent years," he says.

"Some of the problems inherent in water quality are also present in this new field of water usage and other problems are manifesting themselves where knowledge of good water works practices can save users of this equipment countless dollars and cents as well as to conserve water.

"For example, a 10° rise in condensing temperature due to a dirty or scaled condenser on a 'Freon-12' compressor can cause as much as a 20% increase in power consumption with a corresponding 5% decrease in capacity. In any installation, losses of this nature can be reduced substantially by proper chemical treatment of the water used in the system," Ross declares.

"As an arbitrary standard for water quality for air conditioning water conservation equipment, it would be desirable to have a water with the following charac-

teristics: moderately soft (not more than 2 grains hardness), should be slime and algae free, low total solids, pH about 7.5, foam free, and absence of dissolved gases, particularly carbon dioxide, oxygen, or hydrogen sulfide.

FOOL-PROOF METHOD ALMOST IMPOSSIBLE

"A fool-proof method of obtaining all of these characteristics is almost impossible due to variable water supplies in addition to prohibitive treatment cost; however, much can be done to greatly improve conditions in the majority of cases," he contends.

"The physical nature of water conservation equipment usually necessitates location in some inaccessible spot such as on top of the roof or in the corner of a building where considerable material is present in the atmosphere. Since frequent supervision, testing, and complicated treatment cannot be conducted where the equipment is not readily accessible, a treatment should be selected that will give maximum performance with minimum effort. A knowledge of elementary water problems by the equipment owner as well as the service contractor would be desirable; however, it should not be required.

"Most people are familiar with scale and some forms of corrosion; however, slime and algae are not known quite so well. It is usually necessary to explain the presence of microorganisms found in all waters, particularly in the temperature ranges employed in the condenser or heat transfer section of refrigeration and air conditioning equipment.

"A visual determination of slime or algae will usually suffice in equipment that is readily accessible, such as cooling towers or evaporative condensers, but in shell and coil condensers and some shell and tube condensers where it is not possible to see a slime condition, the blame for poor performance is often placed somewhere else. The manufacturers of water saving devices are constantly seeking means of eliminating the problems in the use of their equipment.

MECHANICAL INNOVATIONS WORK UNDER IDEAL CONDITIONS

"Several mechanical innovations to water saving equipment, such as the 'bleed-off' or 'blow-down' line to hold the concentration of solids to a minimum and the 'magnesium rod' designed to control corrosion as well as scale, have been worthwhile contributions. However, such innovations work only under ideal conditions," he says.

"The 'bleed-off' or 'blow-down' is usually not sufficient to control scale in hard waters and the 'magnesium rod' is known to perform in some waters where the pH did not fluctuate, but in other cases, flocculent metal hydroxide precipitates formed with definite heat transfer losses. Also, there are at present no inexpensive, mechanical methods for removal or elimination of slime or algae.

"The chemical approach seems to be the best and most worthwhile method of controlling the majority of problems over a wide range of water conditions," Ross thinks.

"These products are independent in their usage such as a preventive to retard the formation of scale, corrosion, slime, and algae; a cleaner to quickly and safely remove these substances along with mechanical impurities from atmospheric pollution, and a slime treating substance which will destroy slime and algae."

Central Plant Air Conditioning System Requires No Display Area

ST. LOUIS—One of St. Louis' largest and most modern supermarkets, the new Kroger Co. unit in the Warson Woods Shopping Center, has achieved all-year air conditioning without the necessity for an equipment room or placement of equipment in the main store area, it was reported recently.

This saving in valuable space was accomplished by the utilization of a 30-ton United States Air Conditioning Corp. RKW factory-assembled central plant, which oc-

cupies less than 32 sq. ft. of floor area, the report noted.

The Kroger engineering department, which designed the system, elected to locate the equipment in the warehouse section of the build-

ing, which is also served by the air conditioning system.

Concealed ductwork, parallel to the two outside walls, with small wall grilles, distributes the conditioned air to the main store area.



RANCO DUAL PRESSURE CONTROL

... safety-guarantee for your air conditioning service

Your customers will appreciate the protection of this Dual Pressure Control ... and here's why:

High pressure cut-out with non-adjustable high pressure limit stop safeguards the system—prevents service adjustment above the maximum safe operating pressure. Low pressure safety cut-out prevents pulling air into the system with excessive low pressure operation.

In either event, the system shuts down until restarted with the manual reset. Both high and low pressure ranges are independently adjustable.

Add up those features and you'll understand why Underwriters Laboratories requires this type of control on all hermetically sealed air conditioning systems ... why both you and your customers will consider it well worth the few minutes it takes to install. Make your next job a Ranco Dual Pressure Control installation ... now available in Types 012-1593, 012-1594 and 012-1595 ... a safety-guarantee for your air conditioning customers.



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WORLD'S LARGEST MANUFACTURER OF REFRIGERATION CONTROLS

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KENNARD KT Water Savers (Induced Draft Cooling Towers) are ready for you NOW! Outstanding features found in KT Water Savers—Centrifugal type fan, redwood wetted deck, galvanized construction throughout, engineered for long life—OUTDOOR or INDOOR. Sized to meet popular demand, 3, 5, 8, 11 & 16 tons. Catalog KT-2.

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4 Reasons Why

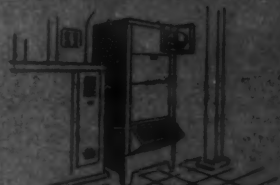
KENNARD ENGINEERED
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ARE BETTER



1. QUIET



2. SAFE



3. COMPACT



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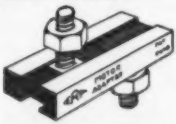


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Servicing Self-Service Cases (2)

An Outline of Some of the Proper Approaches To Installing And Maintaining Refrigerated Self-Serve Display Cases

By B. E. Meler, Manager, Field Sales Service Div.,
Weber Showcase & Fixture Co., Inc.

This is the second instalment of an article by Mr. Meler based on his talk "Application and Service Problems of Open Self-Service Cases" which was given before the ARI Educational Conference and Exhibit held at Long Beach, Calif.

Refrigerated self-service display cases are taking a dominant position in food store fixtures, and the author tells how refrigeration service engineers can best approach the servicing of such equipment.

Balance of the article will be published in a future issue.

Not only does a refrigeration engineer necessarily have to be a practical man in servicing a self-service case but he must also be well informed with electrical controls and circuits in order that he may check out the controls that the modern, self-service case uses.

Today a refrigeration engineer must be equipped with electrical

testing equipment that makes it possible for him to check out the equipment, and if there is something wrong with an electrical control or circuit, he then can advise the customer or the user of the case to call his electrician.

In most service problems that I have been asked to investigate, where the trouble is electrical, we

usually find the refrigeration engineer is the mechanic that has found the troublesome item, and then the electrician has been called in to correct it.

The self-service case is designed to do a job; that is to properly maintain temperatures within the merchandising area that will preserve the perishable foods placed in the case. Many times the only place a merchant has to place his perishable foods is in the self-service case. Therefore, it is necessary for the equipment to maintain temperatures that will preserve the perishable foods throughout every hour of the day and each day of the week.

Perishable foods, as you know, should be kept at the temperatures recommended at all times by the wholesaler. Otherwise there will be

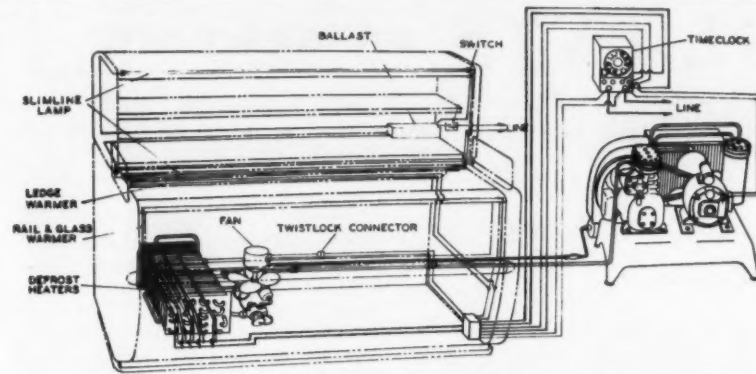
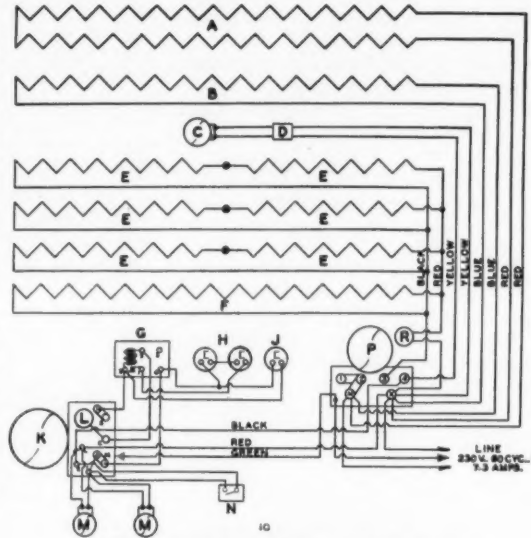


FIG. 1—This is a schematic drawing of typical electrical plans of a self-service case. It is similar to that which is usually included in the installation instructions accompanying each piece of equipment.

FIG. 2—Schematic wiring diagram of the same case showing amperage rating of all circuits and components. Key to drawing follows:

(A) Ledge warmer 0.3 amps.—must operate continuously; (B) Rail warmer 0.2 amps.—must operate continuously; (C) Case fan 0.6 amps.—off during defrost; (D) Twistlock connector; (E) Defrost heaters 115 V., 225 W. ea.—on during defrost; (F) Front duct defrost heater 230 V., 200 W.—on during defrost; (G) Potential relay; (H) Starting capacitors; (J) Running capacitor; (K) Compressor motor 5.0 amps.—off during defrost; (L) Overload; (M) Condenser fan motors, 0.35 Amps. ea.; (N) Low pressure control; (P) Time clock; (R) Defrost heater limit control.



SCHEMATIC WIRING DIAGRAM 230 VOLT SYSTEM

a shrinkage or icing condition, and the quality of the food will be affected.

The electrical parts used in this case consist of one fan with a twist lock connector; two slimline (Continued on next page)

SCHEMATIC DRAWING OF ELECTRICAL CIRCUITS

Fig. 1 is a schematic drawing of the electrical plans of a self-service case similar to one used by the average manufacturer, which you will usually find in the installation instructions included with each piece of equipment.

Too many servicing contractors fail to note the importance of the information shown in one of these schematics. We have used a very simple drawing in order that we may make our explanation as clear to you as possible.

You will notice that we have shown the entire electrical circuit within a refrigerated self-service case, which is operated with a remote machine and is mechanically defrosted using a time clock. This case as you note, is defrosted using electrical bayonet-type heaters.

Should you check any schematic drawing in the installation instructions supplied by a case manufacturer, you would find electrical circuiting in black (which, of course, is for economy reasons), but these circuits are very easily traced. A well-informed refrigeration engineer should thoroughly understand and know the electrical components that are used within the equipment.

WALL WIRE PRODUCTS COMPANY

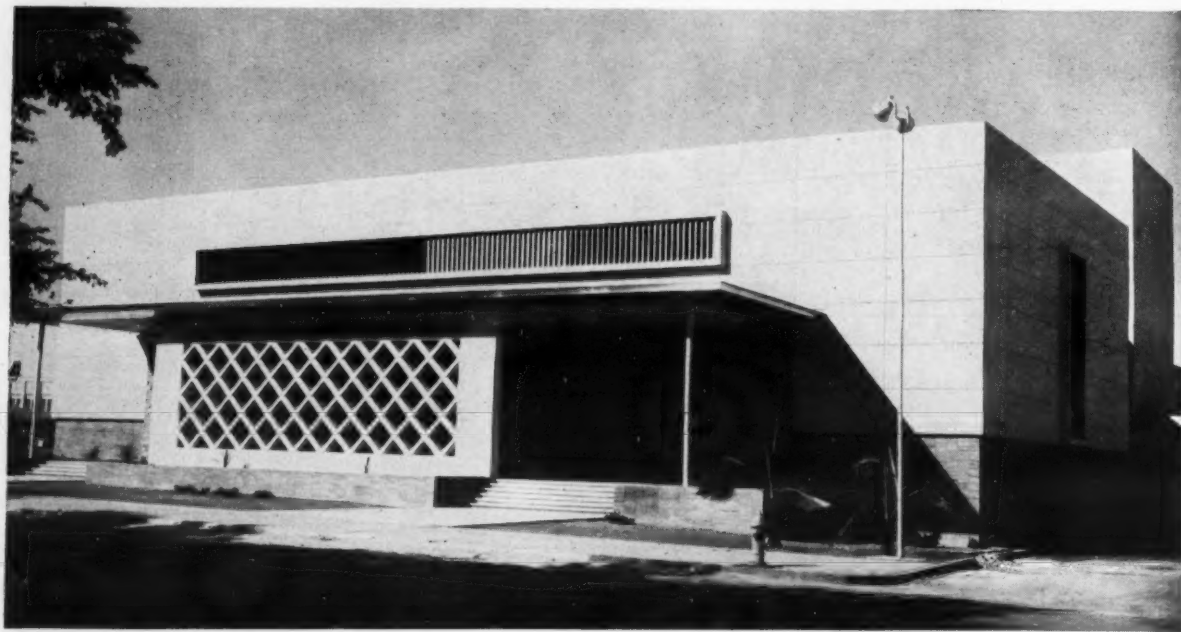
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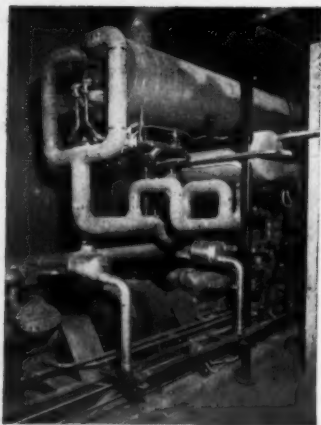


Acme air conditioning goes to school

1500 Seat Las Vegas High School Auditorium Uses 6 Acme Units in 160 Ton System

Las Vegas Union High School's new million dollar auditorium illustrates the advances in school design that have been taking place over the past few years. More and more the approach has been to provide facilities that make the local school a center for community activities. In addition to having a seating capacity of 1500, this auditorium is equipped with ultra-modern stage facilities, a spacious lobby, large office space, band practice rooms, a Board room and a warehouse.

The entire building is air conditioned with refrigeration and hot water heating. 480 GPM of water, chilled from 58° to 50° for the 160 ton cooling load, is provided by one 60 ton and one 100 ton Acme Dry-Ex Water Chillers. Condensing and water convection for the system is provided by a 160 ton Acme Evaporative Condenser. To improve overall system efficiency, 2 Acme heat exchangers and an Acme Liquid Receiver have been installed.



Architect: Claude Beelman
Contractors: Lemke, Clough & King
Refrigeration Installation: Western Heating and Ventilating Co.



ACME INDUSTRIES, INC.

Mfgs. of a complete line of Air Conditioning and Refrigeration Equipment
JACKSON, MICHIGAN



Evaporative Condensers
Cooling Towers
Floor-type Unit Coolers



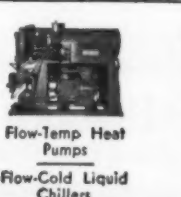
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Packaged Liquid Chillers to 225 tons



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Remote Room Conditioner

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"Harry Alter gives you snappy service."



Servicing Self-Service Cases--

(Continued from preceding page)

lamp tubes; ballast; and a toggle switch; anti-sweat heaters; defrost heaters; and time clock. We believe this to be a minimum number of components and circuits required in the present day self-service refrigerated case.

Self-service cases that may be slightly more complex with respect to electrical circuits and components used should not cause any undue concern, because if carefully checked out, you will find them to be just as simple as the case shown in this schematic.

SCHEMATIC WIRING DIAGRAM

Fig. 2 is a Schematic Wiring diagram of the same case, showing the amperage rating of all circuits and components. Defrost heaters and circuits, as well as anti-sweat warmers, usually cause more concern to the average refrigeration engineer, unless they acquaint themselves with the electrical circuits.

Although I stated before the responsibility of correcting electrical circuits within a case of this type becomes the responsibility of an electrician, still, the refrigeration engineer is faced with the problem of finding out what is causing the refrigeration failure.

To do this, I would recommend that each refrigeration engineer be equipped with an amp-meter and an ohm-meter in order that he may correctly check out the components and circuits in a modern day self-service refrigerated case.

An ohm-meter is needed to test

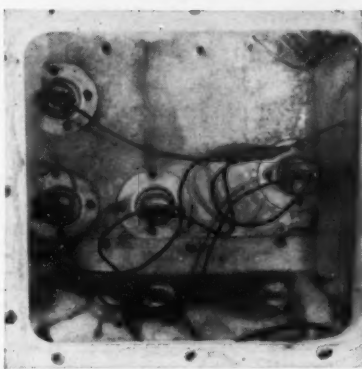


FIG. 3 shows access cover removed from defrost heater compartment where the bayonet-type heaters and the limit switch can be serviced easily.

resistance wire that is used in warmers and defrosting circuit. I am sure that you have found that when you have the electrical testing equipment to find out what has caused refrigeration failure or improper operation that any customer or user of a refrigerated case will follow your suggestion and call in a competent electrical repairman.

Fig. 3 shows the access cover removed from the defrost heater compartment where the bayonet type heaters and the limit switch can be serviced very easily. The schematic just shown called for 230 volts. However, the heaters were 115 volts and connected in series. The access cover plate which was not shown had complete instructions for servicing the heaters and limit control glued to it.

(To Be Continued)

Hotpoint Names 4 to Product Service Posts

CHICAGO — In an effort to strengthen and increase the product service organization throughout Hotpoint Co., several new appointments were announced by John F. McDaniel, vice president, marketing.

J. E. Jones has been appointed district product manager for the company's San Francisco office, reporting to the district manager.

A. A. Knes has been appointed district product manager, Cleveland district, replacing R. C. Lange, who was transferred to Chicago.

R. E. Rollins, formerly General Electric district product service staff member, Dallas, has been appointed district product manager, New York district of Hotpoint.

C. G. Dean has been appointed technical specialist of the district service operations and field education, Chicago. He will act as the technical advisor for all the field district product service managers regarding product difficulties and field service procedures.

McDaniel said the changes reflect a general tightening up of the servicing operations of Hotpoint to provide additional service insurance for operating districts.

WHY WAIT?

Get your new product info pronto. Use coupon on "What's New" page this issue.

Mr. Frigidaire dealer!

Do any of your customers owning a Frigidaire ice maker have an ice cube storage problem?

Would they install a Frigidaire ice maker IF THE STORAGE CAPACITY WERE GREATER?

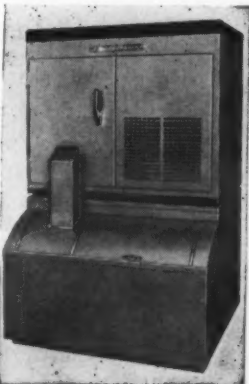
If the answer to either question is "yes," investigate the new Auxiliary Storage Cabinet now available thru your Frigidaire Branch or Distributor.

This beautiful cabinet, especially designed to fit Frigidaire models CMR-1 and CMR-2, adds up to 1/4 TON INCREASED STORAGE CAPACITY. Installation is extremely simple, requiring less than one hour's labor.

Assures an ample supply of ice cubes at all times, ready for peak hour demands, or for carry-out sales.

Your Frigidaire Branch or Distributor has complete information. Call him today! Or, for further details, write direct to factory.

NORTHLAND MANUFACTURING CO.
137 East Island Ave., Minneapolis 7, Minn.



Air Conditioning Center For Automobiles Only Opens In Houston

HOUSTON, Texas — Houston's first air conditioning center exclusively for automobiles is now functioning.

John C. Cook is division manager of the Automotive Air Conditioning Center in Houston's suburban West University Place, a central location for prospective customers.

The center handles the A.R.A. Refrigerair automotive air conditioning equipment, manufactured by a Houston firm, A.R.A. Mfg. Co.

Ben Jack Cage, insurance and business tycoon, is president of the firm, and the sales center is a division of the business.

The center handles three types of models, a junior model for light and medium cars, a senior model for heavy passenger cars, and special models for station wagons, panel trucks, and ambulances.

Houston, where about three-fourths of the 6,000 registered Cadillacs are air conditioned, is considered a prime market for automotive air conditioning because of the humid weather and long hot season as well as the relatively large percentage of upper income families, the company pointed out.

Sealed Unit Repair Shop Opened In Savannah, Ga.

SAVANNAH, Ga.—Opening of a new service department at 808 Pennsylvania Ave. by Kessler Refrigeration & TV Co., 1514 Bull St., was announced by C. S. Kessler, master technician and shop foreman.

Kessler said the new shop has been furnished with special equipment for the servicing and repairing of sealed units in refrigerators, giving these units the same type of service that is received at the factory.

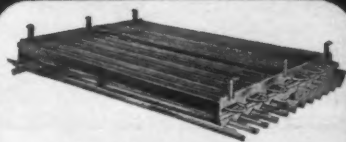
2 Given Suspended Fines In Death Trap Violation

MARION, Ohio — Two Marion men were given suspended fines of \$25 and costs in Municipal Court recently after pleading guilty to charges of violating a city ordinance prohibiting abandonment of refrigerators without removing doors or door latches.

Municipal Court Judge W. Dexter Hazen said he suspended the fines because the men were the first to be arrested under the law, which was enacted last December. From now on, he declared, the law will be "vigorously" enforced.

According to police, both men had been warned about discarded iceboxes at their residences. The boxes were accessible to children.

Buy Peerless FOR PERFORMANCE



Flash Coolers Fin Coils Flash Pans

The Peerless Line of quality products is designed and constructed to meet every demand of modern commercial refrigeration. Our Flash Coolers, Fin Coils and Flash Cooler Pans have proved their superiority in performance under widely varying operating conditions. They are built with an eye to appearance, economy of space, and the utmost convenience in installation and servicing. Louvers fabricated from polished aluminum. Made in a wide variety of standardized sizes and styles—all of unchallenged Peerless quality. Write for Bulletin 49G today.

Peerless of America, Inc.

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DIRECT EXPANSION AND FLOODED

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COMMERCIAL

CATCH-ALL Filter-Driers

SOLENOID VALVES

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AIR CONDITIONING

AMMONIA

SPORLAN VALVE COMPANY

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EXPORT DEPARTMENT 89 BROAD ST., NEW YORK 4, N. Y.

Get Them at your Sporlan Wholesalers

Refrigeration Problems and their solution

by Paul Reed

For Service and Installation Engineers



Paul Reed

Spring Inspection (6)

BELTS

Belts should be checked for alignment, tension, and condition. If the motor is a couple of feet from the compressor, misalignment is usually evident by sighting down the belts themselves. Many units today are very short coupled, and the belts can be enough out of line to cause rapid wear and yet the misalignment will not be evident from casual inspection.

At the speeds that compressors are operated today, most compressor pulleys have their rim faces machined, for it is difficult to cast pulleys accurately enough to prevent them from being out of balance. These outer faces are machined on the same lathe setup when the belt grooves are cut, so the rim faces are parallel with the belt grooves and can be used in checking belt alignment.

With a piece of tape, stick one end of a light cord to the rim of

the pulley farthest from the motor. Draw the cord beyond the motor pulley a foot or so, with the cord barely touching the rim of the compressor pulley nearest the motor. By comparing the belts with the cord, you can determine whether the belts are in line or not.

If the belts are only slightly out of line, it may be possible to loosen the motor pulley and move it on the motor shaft and thus line up the two pulleys and the belts. Care must be used, however, that the motor pulley is not so far out on the motor shaft that it will loosen and wobble, nor too close to the motor end bell that the motor pulley will strike the end bell if there is enough end play in the motor shaft. When the motor is running, the thrust due to the fan may push the motor pulley toward the motor.

Moving the motor pulley inward or outward may not be the answer anyway. The motor may have shifted so that the motor shaft is

not parallel with the compressor shaft. In this case, the motor should be loosened and properly located in order to re-align the belts.

Check the belts for tension. If the unit is short-coupled, it may be necessary to run the belts somewhat tighter than on standard units, but vee belts should not be any tighter than is necessary to keep them from slipping. If the pulley grooves are properly machined, and the right size belts are used, the pull is on the sides of the belts, and the belts should not bottom in the grooves.

It is difficult to give a hard and fast rule on how to test vee belts for correct tension, for this varies somewhat with the size and type of vee belt, the ratio of pulley diameters, and the distance between the shafts of the compressor and the motor.

One test is to grasp a belt between the thumb and forefinger. If you can twist it a full quarter turn, the tension is about right. Another test is to press the belt

downward with your thumb at least $\frac{1}{2}$ in.; if you can do this, the tension is about right. However, these are only rough checks, and you must depend largely on experience and good judgment in determining the proper belt tension of vee belts.

MATCHED BELT SETS

Multiple vee belts should be bought in matched sets. Even belts of the same make and part number vary slightly in length. If one is a little shorter than the others, it will be tighter and thus take most of the load. Consequently it will wear out quickly. Belt makers cannot make them exactly the same length, so the belts are selected and matched together to get a set, all belts of which are just the same length.

The belts of matched sets will wear evenly, and if they are properly aligned, have the proper tension, and are kept clean, they will have a long life, often several years. It is rarely practical to replace only one belt in a set, for the chances of that belt being exactly the right length are very remote. If it is too tight, it will wear out quickly; if it is too loose it will carry very little of the load, and the others will wear out quickly.

Vee belts must be kept clean. Especially they must be kept free of oil. They are made mostly of rubber and cord or fabric, and oil softens rubber and greatly lessens the life of the belts. Check the vee belts for cleanliness. If they are oily and gummy, remove them and wipe them clean with naphtha; then let them dry before putting them back on the machine.

When putting on or removing vee belts, do not pry them on, nor "rim" them by rolling them on tightly over the pulleys. Either of these two actions will injure the belts by straining or breaking some of the cords or fabric. Instead, loosen the motor and slide it toward the compressor before removing or replacing vee belts. When they are again in place, pull the motor back and align the belts properly before tightening the bolts securing the motor to the rails or base of the unit.

Vee belts sometimes squeak. If this happens, check the alignment and tension. If both are correct, you can usually stop the squeak by applying a little talcum powder on the sides of the belts. Never use oil nor belt dressing on vee belts.

CORROSION AND RUST

Spring inspection is a good time to go over some of the sheet metal housings of blowers, evaporative condensers, and cooling towers for rust spots. These can be wire brushed, sanded, and repainted, and many years added to their life. Be sure to clean down to the bare metal, then apply a base coat ("red lead" is good) and a finish coat of good oil paint or enamel.

Clean out and flush the sumps

of evaporative condensers and cooling towers and see that the float valves are in good working order. Check spray nozzles and clean or replace them, if necessary.

EVAPORATOR ACTIVITY

By all means, check the evaporator to see that during normal operation the evaporator is fully active. If it is not, find out why. Perhaps a drier or strainer is partially stopped, an expansion valve has partially lost its charge, or the superheat adjustment is not correct.

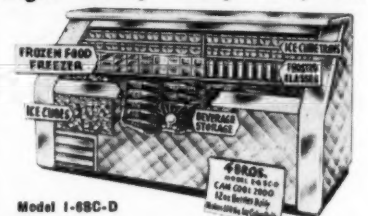
Do not jump to this conclusion too quickly though, for presumably the valve was set properly and still is, but something else is causing a lack of refrigerant to the evaporator. On the other hand, it is quite possible that the expansion valve never was set properly. This is not as uncommon as it may seem.

THREE-PHASE MOTORS

On installations that have been shut down for some time, check the direction of rotation of three-phase motors. During the time the equipment was out of service, the connections may have been changed back at the meter, or on the transformer, causing the motor to operate in a reverse direction. Fans, pumps, and most compressors require a correct direction of rotation; otherwise they are ineffective or may even be damaged.

(To Be Continued)

All Purpose Case for Taverns, Night Clubs, Grills, Bars, etc.



Model 1-68C-D

New! 4-BROS. 1954 MODEL "5-IN-1" COMB. ICE CUBE MAKER & BEVERAGE COOLER

1. Makes 250 lbs. Ice Cubes Daily.
2. Dry Cools 2,000-12 oz. Bottles Daily.
3. Frozen Food Storage Shelf.
4. Frosts Glasses.
5. Beverage Storage Space -34° F.

SIZES: 4 TO 10 FT., W. 27", H. 36"

Stainless steel for lasting beauty, economical and dependable trouble-free performance. A space saver that takes the place of several boxes.

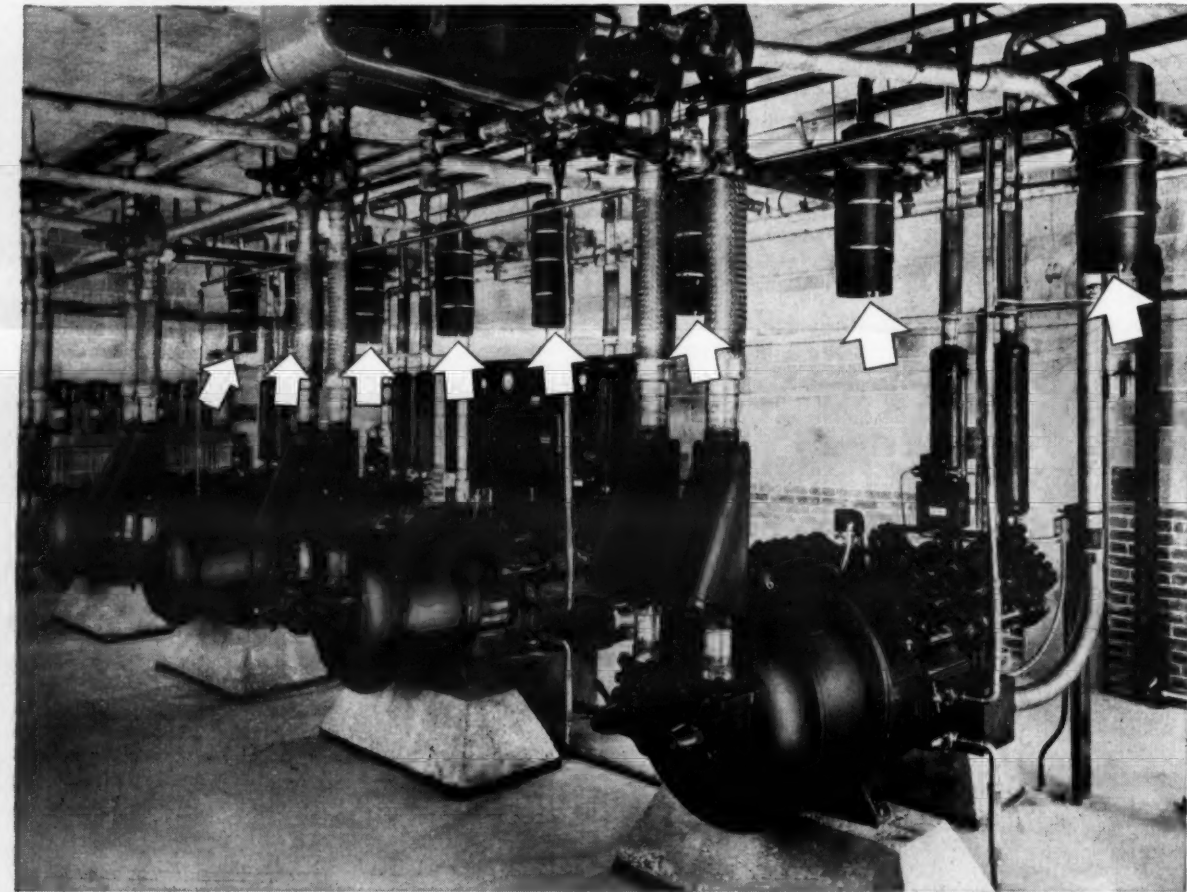
Write for Information and Free Catalogue of our complete line of cases for every need.

4 BROTHERS REFRIGERATION MANUFACTURING CO.

Factory and Showroom:
1423-31 So. 8th St., Philadelphia 47, Pa.
Exclusive Franchises available to dealers

JUST ASK US

For "easy-to-get" product information...
Use Key No. for fastest service.



Temprite Oil Separators maintain high efficiency of air conditioning system at Denver Post!

Keep oil away from the low side and in the compressor where it belongs! Lower temperatures are then easily reached, the compressor operates on minimum time only, and the crankcase oil level remains constant. The refrigerant remains at its true boiling point—heat transfer is increased 15% to 20%—and the expansion valve operates more efficiently, free from oil, dirt and corrosion. Do it all with a Temprite Oil Separator.

The Denver Post air conditioning system, installed by the T. C. Alexander Company of Denver, has been in operation for 3½ years, performing at very high over-all efficiency—thanks, in large measure, to eight Temprite Oil Separators (two to each 100 ton machine).



Temprite Oil Separators are available in sizes from 1/6 to 150 tons.

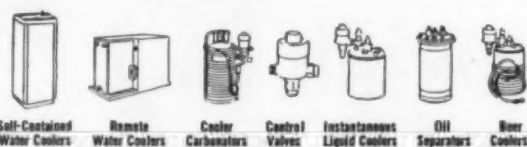
TEMPRITE PRODUCTS CORP.

P.O. Box 72 A, Birmingham, Michigan

- ☐ Please send me complete data on Temprite Oil Separators
- ☐ Ask your representative to call

Name _____
Address _____ Zone _____
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Temprite



PRODUCTS CORPORATION ★ BIRMINGHAM, MICHIGAN



BULLETIN 709

Size 2, Bulletin 709 across-the-line solenoid starter with cover removed.

TROUBLE-FREE

Across-the-Line Starters

The Bulletin 709 solenoid starter is a favorite for air conditioning and refrigeration because it is good for millions of operations and does its job day in and day out without attention. The double break, silver alloy contacts never require maintenance. There is only one moving part—no trouble-making pins, pivots, hinges, or flexible conductors. Write for information.

ALLEN-BRADLEY COMPANY
1313 S. First St.,
Milwaukee 4, Wisconsin

ALLEN-BRADLEY
QUALITY
SOLENOID MOTOR CONTROL



N. Y. Dealers Confident--

(Concluded from Page 1, Col. 2) weather, the air conditioning dealers will be sleeping like babies."

How late can an extended hot weather spell come and still bring about a good selling season on "impulse buying" of air conditioning?

Frank Teofani, sales manager for Carleton-Stuart, a top distributor of room air conditioners and package commercial equipment, analyzes this problem in the following fashion:

WEATHER OUTLOOK

"In a 'normal' year (which would mean some hot spells in June) we would expect to do half as much or slightly more business in July than we did in June. And of the July business, we would expect 75% to be done by July 15."

"However, if we do not get warm weather until late in June or early July, then it is conceivable that we could do a greater volume in July than we did in June."

"If we don't get prolonged hot spells before the middle or end of July, it seems inevitable that a certain amount of business will be lost—'carried over' probably until next year. One thing that might change this forecast would be a hot spell of prolonged severity."

Since Carleton-Stuart warehouses much of the package equipment sold by its dealers, it has a pretty good picture of sales movement in the field. According to Teofani, sales through April showed the anticipated increases, and even in the early part of May room air conditioner sales were going at the pace expected.

However, when the cold weather continued through May, it made it

increasingly difficult to close sales on all types of air conditioning, he said.

"I think there is a key there as to why price-slashing now, without any impetus from the right kind of weather, is going to move much merchandise," Teofani pointed out. "The cream of the market has been skimmed off in terms of people who had made up their mind to buy ahead of the season, and the cut prices don't mean much to anyone who isn't conscious right then and there of the need for air conditioning."

BIG PUSH IN JUNE

As far as L & P Electric Co. is concerned, it figured that the big selling season on room air conditioners wasn't due to start until the second week in June.

At least that's when this Fedders-Quigan distributor is teeing off with its big advertising and promotion effort. According to Stan Freed of L & P, this will include 70 television spots running over a period of seven weeks, full page advertisements every week for a six-week period, and a dealer cooperative advertising program going on in full swing.

"We expect to get the big push in business in that time," Freed said. "Sales were slow in May, but with just a little hot weather early in the second week in June, sales really picked up."

"We have made provisions to get all installations made within the next day or two on all sales, as we think this is important in building goodwill for future sales."

A room conditioner dealer with an optimistic report and outlook is Arrow Utilities of Brooklyn. George Shumsky of Arrow reports that the company is ahead of last year, and that it is keeping an installation crew busy seven days a week.

VACATION TRIPS HELP

Admittedly, the company's special promotional offer of vacation trips to Miami Beach or to a Catskill mountain resort has helped spur some hesitant buyers to making a decision to purchase.

The condition on which such trips are given as prizes are that sales must be at list price, with the extent of the trip depending on the number and size of the units purchased. However, the company reserves the right to withdraw the offer at any time, and prospective buyers realize that any rush of business could well cut off this vacation trip premium.

"We think it's a lot healthier way to promote business than by offering discounts of ridiculous proportions," Shumsky said.

Shumsky said that Arrow's salesmen report that the public is becoming more conscious of the need for proper sizing, installation, and servicing of equipment.

"There are enough units out now so that prospects know, from contact with users, the pitfalls of buying cut-price merchandise that will possibly not be properly installed and cause a lot of service problems," the Arrow representative stated.

It is Arrow's opinion that the proper electrical wiring is a key matter in making a proper installation, and on all Arrow sales a survey of the electrical system is made and the current is tested.

It is found after that the wiring and current were inadequate, the salesman is penalized.

"We're cooperating with groups such as the Better Business Bureau in trying to see that proper installations are made, and we think that some progress is being made," Shumsky said.

May sales of room air conditioners were "really disappointing" and the early part of June hasn't shown too much of a pickup, declared an official of a distributor for a top room air conditioner line.

"However, pre-season sales before May were exceptionally good,

and with any break at all we may reach our sales goal for the year," this man said.

He pointed out that on June 8, when the temperature went into the eighties in New York City, the firm's sales were running two-to-one over the previous day, which was quite cool.

"That shows how sensitive this business is to the weather," he declared. "We think there's a big mob of people who will be hungry

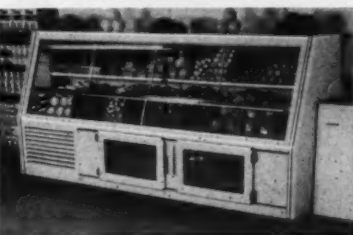
for air conditioning as soon as it gets a little hot and humid—but this buying rush will be triggered strictly by the weather. Our dealers tell us that they know of many people who will buy just as soon as they begin to feel the heat."

The price cutting, in this man's opinion, will result in some sales increase because it will stimulate buyer's interests, but he thinks the dealers are seriously hurting their

own profit picture with such offers.

The "price bait" type of advertising run on room air conditioners—and which the stores admit hasn't produced much sales volume—has been done primarily by the big appliance chains and some department stores. "Savings" of as much as 45% off of list are offered in some cases, but the exact model is either not identified, or if it is, it is generally not a nationally advertised brand.

from the SMALLEST to the LARGEST...



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Warren's wide variety of clean, modern equipment assures your ability to equip any operation... From the smallest delicatessen to the largest super-store!

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Amana gets a problem off its chest



HOT OFF THE LINE. this Amana Food Freezer, now the pride of its maker, will soon be the pride of some home-owner. Problem was to get it to the new owners as flawless as when it left the factory. The sensible solution was to consult a packaging authority in this field for recommendations. That's when Atlas Plywood was called in.



READY TO TRAVEL. Atlas Plywood engineers designed a plywood container that would withstand bumps en route, in warehouse handling and in dealer delivery. Distributors praised the case because it provided full protection and relieved the headache of damage claims. Amana now packages its entire production in Atlas Plywood containers.

Can your shipping costs be cut?

Let's try. No charge if they can't. Big savings if they can. Ship us your products in their present containers. Then —

We'll test them, duplicating all conditions of actual transit. You'll get a full engineering report, along with the clinic's recommendation for any improvement in packaging that may be needed. And you're welcome to watch the tests.

This is a FREE service by Atlas Plywood. Without obligating you in any

way it enables you to find out: (1) whether or not you can get a safer shipping container; (2) whether you actually can cut your present shipping costs, and; (3) just how much you can save.

Your Atlas Plywood representative (see Classified Telephone Directory) will be glad to make the arrangements. Or write to Atlas Plywood Corporation, 1432 Statler Building, Boston 16, Mass.

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CORPORATION
FROM FOREST TO FINISHED PRODUCT

Plywood Containers

Flush Doors

Hardwood Panels



Type
AF

Safety Valves

Alone meet all Code requirements. Seats and moving parts stainless steel: full opening, large capacity. Can be reseated. Sizes 1/2" to 1 1/4". Best possible protection for old and new plants. Get Bulletin 185.



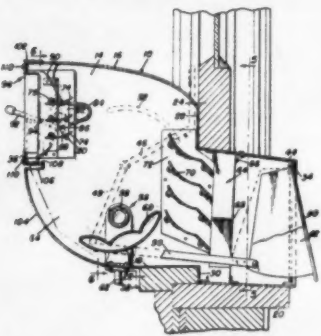
Distributor Franchises Available



PATENTS

Week of February 23 (Concluded)

2,663,923. AIR CONDITIONING SYSTEM. Bonnie Knepper, De Witt, Iowa. Application Oct. 9, 1950, Serial No. 189,200. 2 Claims. (Cl. 98-99.2.)

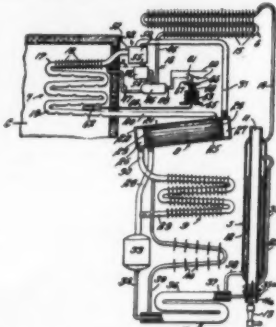


1. An air conditioning unit comprising a casing adapted to be mounted in a window opening, said casing having an inlet opening at one end thereof and an outlet opening at the other end thereof with a passage therein communicating between said inlet and outlet openings, a combined ultra-violet and infrared radiator in said passage, louver means in the outlet opening of the casing adjustable for limiting the size of the outlet opening, and thermal responsive means operatively connected to the louver means and disposed in the passage to vary the size of the outlet opening according to the air temperature in the passage adjacent the outlet opening, whereby the temperature of air discharged from the casing into the interior of a room may be automatically maintained substantially constant irrespective of the temperature of outside air entering the casing, said louver means comprising a plurality of pivotally mounted louvers in spaced parallel arrangement, a link pivotally connected to each of the louvers remote from the pivots

thereof, whereby the louvers move in unison, said thermal responsive means comprising a bimetallic strip having one end secured to the casing and its other end operatively connected to the link to actuate the link and thereby the louvers, including a second link pivotally connected at one end to the first mentioned link, said other end of the bimetallic strip being pivotally connected to the other end of the second link, and manual control handle for the louvers pivoted intermediate its ends to the casing and having one of its ends pivotally connected to the second link.

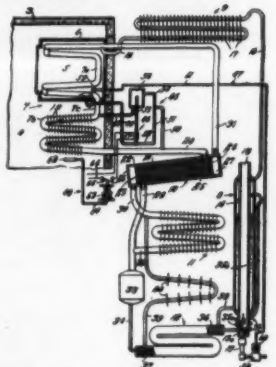
Week of March 2

2,670,606. DEFROSTING ARRANGEMENT. William R. Hainsworth, Paente, Calif., assignor to Servel, Inc., New York, N. Y., a corporation of Delaware. Application Aug. 16, 1952, Serial No. 304,771. 9 Claims. (Cl. 62-5.)



1. In an absorption refrigeration system of the three fluid type containing a refrigerant, an absorbent and an inert pressure equalizing gas and having a refrigerant circuit comprising a condenser and an evaporator and a gas circuit comprising the evaporator, the combination with such a refrigeration system of a defrosting arrangement comprising a liquid line in the refrigerant circuit through which refrigerant flows from the condenser to the evaporator, a liquid reservoir depending from a portion of the gas circuit, a connection between the liquid line in the refrigerant circuit and the liquid reservoir in the gas circuit, a heater for vaporizing refrigerant in the liquid line which flows through the connection to the reservoir vessel and forces liquid therefrom into the gas circuit to stop the flow of gas therein, and a control for starting and stopping operation of the heater.

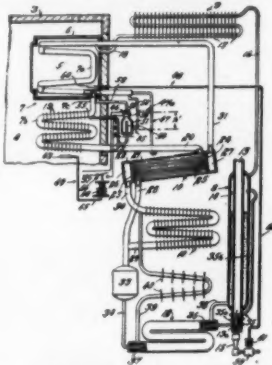
2,670,607. MULTIPLE TEMPERATURE EVAPORATOR. William R. Hainsworth, Paente, Calif., assignor to Servel, Inc., New York, N. Y., a corporation of Delaware. Application Aug. 16, 1952, Serial No. 304,772. 8 Claims. (Cl. 62-5.)



1. In a refrigerator, a cabinet having separate compartments, a refrigeration system comprising an evaporator having a low temperature section and a high temperature section in the separate compartments of the cabinet, each of said sections being arranged for gravity flow of refrigerant therethrough, a refrigerant liquefier in the system connected to deliver refrigerant to the top of the low temperature section, a drain conduit connected to receive liquid refrigerant overflowing from the bottom of the low temperature section and constructed to accumulate refrigerant therein, a vapor liquid-lift connected between the drain conduit and the top of the high temperature section and comprising a riser, a heater in thermal contact with the riser for heating the latter to expel vapor and raise liquid from the drain conduit to the high temperature section of the evapora-

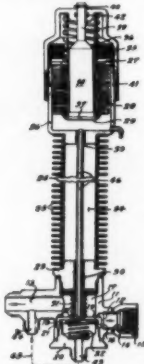
tor, and a control for the heater responsive to a temperature condition affected by the high temperature evaporator section for delivering liquid refrigerant thereto as required.

2,670,608. MULTIPLE TEMPERATURE EVAPORATOR. William R. Hainsworth, Paente, Calif., assignor to Servel, Inc., New York, N. Y., a corporation of Delaware. Application Aug. 16, 1952, Serial No. 304,773. 6 Claims. (Cl. 62-5.)



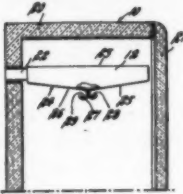
1. In a refrigerator, a cabinet having separate compartments, a refrigeration system comprising an evaporator having a low temperature section and a high temperature section in the separate compartments of the cabinet, each of said sections being arranged for the gravity flow of refrigerant therethrough, a refrigerant liquefier in the system connected to deliver refrigerant to the top of the low temperature evaporator section, a feed conduit connecting the bottom of the low temperature section to the top of the high temperature section through which liquid refrigerant flows by gravity, an overflow drain pipe connected between the feed conduit and the outlet from the high temperature section for bypassing the latter, the point of connection of said feed conduit with the overflow drain pipe being located above its point of connection with the high temperature section, a heat operated device in the feed conduit for stopping the flow of refrigerant therethrough to cause it to bypass the high temperature evaporator section through the overflow drain pipe, and a control responsive to a temperature condition affected by the high temperature evaporator section for operating the heat operated device.

2,670,609. REFRIGERANT CONTROL SYSTEM. Harold J. Matteson, Glendale, Calif., assignor to General Controls Co., Glendale, Calif., a corporation of California. Application March 15, 1950, Serial No. 149,693. 11 Claims. (Cl. 62-8.)



1. In a refrigeration system: a unit for cooling a space and comprising an evaporator coil; means for passing refrigerant through said coil; an expansion valve for controlling passage of said refrigerant, and comprising means responsive to the temperature at the outlet of said coil for controlling the operation of this valve so that it closes with fall of temperature; means constituting a pipe connecting the outlet of said expansion valve to the inlet of said coil; and means for controlling the operation of the expansion valve, comprising a tube connected at one of its ends to said pipe and extending in thermal-transfer relation to said coil-temperature responsive means, the other end of said tube being so connected to the system that refrigerant in the tube returns to the system; an additional valve for controlling flow through said tube of refrigerant entering said pipe when the expansion valve is open, and means responsive to the temperature of said space for operating said additional valve to open position with fall of space-temperature so that the refrigerant then passing through said tube in thermal-transfer relation to said coil-temperature responsive means effects closing of said expansion valve.

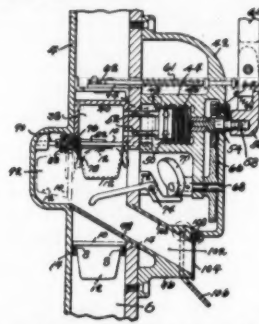
2,670,611. REFRIGERATOR HAVING PROVISIONS FOR COLLECTING MOISTURE. Sven Gustaf Fagerberg and Nils Magnus Warman, Stockholm, Sweden, assignors to Aktiebolaget Elektrons, Stockholm, Sweden, a corporation of Sweden. Application April 26, 1950, Serial No. 158,124. Claims priority, application Sweden May 11, 1949. 6 Claims. (Cl. 62-103.)



1. In a refrigerator including a cabinet having thermally insulating walls defining an interior provided with an access opening and closure means therefor, the walls including top, bottom, rear and lateral side walls, a horizontally disposed partition which extends from the rear wall toward the front access opening of the cabinet to divide the interior thereof into upper and lower compartments, refrigeration apparatus comprising cooling

means forming a part of said partition to transmit cooling effect at one temperature to the upper compartment and to transmit cooling effect at a higher temperature to the lower compartment, structure co-acting with said cooling means which is subject to said higher temperature cooling effect and provides a horizontally extending surface disposed at or adjacent the ceiling of said lower compartment for cooling air circulating in such lower compartment, such surface occupying a substantial portion of the horizontal cross-sectional area of the lower compartment and including only first and second portions which slope downwardly toward one another at an acute angle from the horizontal and at the underside of which occurs condensation of water vapor present in and circulating in the lower compartment, and means at the lowermost regions of the first and second portions of said surface for receiving water flowing thereto in opposite directions from the first and second portions of said surface, said surface having an affinity for moisture condensed at the underside thereof in the form of water droplets and the first and second portions thereof each being at such an inclination from the horizontal that, when the water droplets become sufficiently large, they will flow by gravity in opposite directions at the underside of the first and second portions while adhering thereto and at the lowermost regions of said portions pass onto said water receiving means.

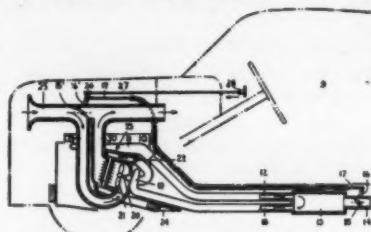
2,670,612. REFRIGERATING AND ICE DISINTEGRATING APPARATUS. Hiram W. Kuse, North Scituate, R. I. Application Jan. 17, 1951, Serial No. 206,371. 9 Claims. (Cl. 62-111.)



1. A refrigerator comprising a body and a door, a disintegrating chamber in one of said elements, a handle for the door means adjacent the disintegrating chamber for supporting a deformable receptacle of ice, and means operable by manipulation of the door handle from the refrigerator exterior with the door in closed position for deforming said receptacle to discharge its contents into the disintegrating chamber and to disintegrate the ice so charged to the disintegrating chamber.

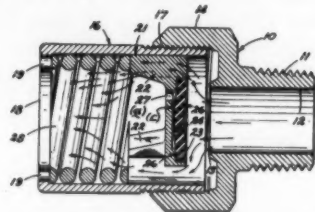
2,670,613. EXPANSION COOLING. Jules Haltenberger, Rancho Santa Fe, Calif.

Application Aug. 20, 1953, Serial No. 305,451. 5 Claims. (Cl. 62-136.)



1. A motor vehicle having a body and a motivating internal combustion engine, a body interior cooler, comprising an engine created source of compressed exhaust gas, an expansion turbine driven by the gas, a turbine work dissipating and gas heat extracting fan integral with said turbine, and ambient air heat exchanger means to cool the interior of said body.

2,670,759. SAFETY RELIEF VALVE. Theodore A. St. Clair, South Euclid, Ohio, assignor to The Weatherhead Co., Cleveland, Ohio, a corporation of Ohio. Application Dec. 22, 1950, Serial No. 202,206. 4 Claims. (Cl. 137-540.)



1. A relief valve comprising a body having a fluid passageway therethrough, means for connection to a gaseous pressure source, a valve seat in said passageway facing away from said connecting means to divide said passageway into an inlet adjacent to said connecting means and an outlet on the side of the valve seat removed from said connecting means, a poppet in said passageway, and a spring urging said poppet toward said seat, said poppet and body being formed to let fluid flow therebetween with the poppet unseated, said poppet being formed with a cavity facing said valve seat, an imperforate valve disc of rubber-like material disposed in said cavity and having a peripheral portion in detachable sealing engagement with an outer annular wall area of said cavity, means for spacing the rearward side of said disc from the bottom of said cavity to provide a gas chamber, and a vent port in said poppet connecting said gas chamber to said outlet whereby the gaseous pressure differential across said valve disc urges the latter against said poppet with the latter in its open position.

(To Be Continued)

READS NEWS AT HOME



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Branch Manager
Drayer-Hanson, Inc.
101 Park Ave.
New York 17, N. Y.

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6-14-54

CLASSIFIED ADVERTISING

RATES for "Positions Wanted" \$7.50 per insertion. Limit 50 words. 15¢ per word over 50.

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ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other addresses by actual word count. Please send payment with order.

POSITIONS WANTED

AVAILABLE GRADUATE of Refrigeration Engineering Institute with 21 years' experience in the industry as factory district service manager. Good service repairman. Looking for work in service or sales department, refrigeration or air conditioning service work, sales or service representative work. Not hard to please, like to work, free to travel. L. FEENEY, 1322 Westheimer, Houston, Texas. Jackson 2183.

ATTENTION, MANUFACTURERS—Maybe you don't need a full-time writer for your instruction sheets and manuals. In that case, it will pay you to look into a new writing service offered by a practical refrigeration and air conditioning man who can handle clear "American" English. VIRGIL C. JAMES, Cuba, Missouri.

REFRIGERATION & AIR conditioning graduate serviceman, white, 29, married, 3 children. Experienced in both domestic and commercial. Largely with Frigidaire. Would like work with all or partly commercial dealer. Will consider another state. Available now. For more information write DONALD HAWKINSON, Lyons, Kansas.

AIR CONDITIONING, refrigeration and piping superintendent of installation and maintenance. Government projects past 7 years. Will also consider sales. Traveling no objection. Write BOX 4584, Air Conditioning & Refrigeration News.

POSITIONS AVAILABLE

DESIGN DRAFTSMAN—refrigerator and freezer cabinets required by old line company manufacturing for private label. This is board work on master layouts. Work is interesting with pleasant working conditions. Man selected will assume position of chief draftsman and must be familiar with small company operation, know how to make short cuts and keep job moving. Write to Fred G. Peck, chief engineer, RANNEY REFRIGERATOR COMPANY, Greenville, Michigan.

WANTED — EXPERIENCED commercial refrigeration and air conditioning serviceman for Michigan territory. Steady employment. \$3.00 hour to qualified party. State experience and references. BOX 4583, Air Conditioning & Refrigeration News.

MECHANICAL ENGINEER for responsible position with mechanical contractor located in rich rapidly-expanding indus-

trial Ohio River Valley, operating both pipe and sheet metal shops, doing only industrial, large commercial, and public works jobs with steadily-expanding volume. Requisites: Minimum 5 years' experience in design, estimating, supervising large central-station air conditioning, heating and plumbing projects. Address BOX 4585, Air Conditioning & Refrigeration News. Enclose photograph. All replies acknowledged and photograph returned in 60 days. State salary expected.

MANUFACTURING REPRESENTATIVE wanted by one of the largest manufacturers of commercial refrigeration cases, selling to hotel-restaurant and refrigeration dealers. Territories open in Tennessee, Alabama, Mississippi, California, Wisconsin, Minneapolis, Dakota, Idaho, Western Pennsylvania, and West Virginia. Replies held confidential. BOX 4586, Air Conditioning & Refrigeration News.

EQUIPMENT FOR SALE

MAKE MONEY with the most compact condensate water disposal unit for air conditioners, ice bins, drinking fountains. Only 9" high, 11" wide and 4 1/2" thick; complete with check valve, float switch and tank. Will pump to a 12 foot head. List \$50.00. Order from your jobber or write to KESCO PRODUCTS CORP., 134-34 230 St., Springfield Gardens 13, N. Y.

1/2 AND 1 H.P. nationally-known compressors at sacrifice prices (manufacturer prohibits us from using name). All twin-cylinder bodies with flywheel and service valves—1/2 H.P. only \$42.00; 1 H.P., \$47.00. (10% discount in lots of 6). Model SA6AL1 and SA6AM1, 1/2 H.P. fan-cooled hermetic units, \$34.00; model SA4AL1- 1/4 H.P., \$37.00. All equipment new and fully guaranteed. MANN REFRIGERATION SUPPLY CO., 440 Lafayette Street, New York City, or phone GRamercy 3-8000.

ATTENTION SERVICEMEN: Send for our refrigeration parts and supplies catalog. Save up to 60% on many items. Re-lays, V belts, T.X. valves, fittings, controls, driers. New—guaranteed merchandise. WALTER W. STARR REFRIGERATION, 2833 Lincoln Avenue, Chicago 13, Illinois.

ATTENTION SERVICEMEN — Copeland Compressors at a substantial savings. New, but held in stock beyond warranty. 1 model no. MF 500, 5 H.P., 3 phase. 6 model no. 95-900, 3 H.P., 3 phase. Subject to prior sales. BOX 4582, Air Conditioning & Refrigeration News.

BUSINESS OPPORTUNITIES

WHOLESALE SEALED unit rebuilding business for sale. Completely equipped to rebuild all makes of sealed units. Factory authorized franchisees. Located in southwest. For information write BOX 4580, Air Conditioning & Refrigeration News.

Government Contracts

DEPARTMENT OF DEFENSE				
Description	Quantity	Reference No.	App. Bid Date	
Commandant of the Marine Corps, Washington, D. C. Attn: Supply Dept., Procurement Section				
Produce display, refrigerated, four units made up as one case, length 44 ft., purchase description.	1 ea.	248 B	18 Jun 54	
Produce display, dry, two units made up as one case, length 21 ft., purchase description.	1 ea.	"	"	
Frozen food, refrigerated, length 11 ft., purchase description.	2 ea.	"	"	
Frozen food, refrigerated, two units made up as one case, length 16 ft., purchase description.	1 ea.	"	"	
Condensing unit, 7 1/2 hp. Dairy display, refrigerated two units made up as one case, length 16 ft., purchase description.	1 ea.	"	"	
Meat display, refrigerated, two units made up as one case, length 21 ft., purchase description.	1 ea.	"	"	
Meat display, refrigerated, five units made up as one case, length 53 ft., purchase description.	1 ea.	"	"	
Walk-in cooler, 12 ft. 4 in. x 24 ft. x 7 ft. 11 in., purchase description.	1 ea.	"	"	
Walk-in freezer, 10 ft. x 13 ft. x 8 ft. 6 in., purchase description.	1 ea.	"	"	
Packaging conveyor table, length 42 ft. Tyler Model Torc or equal.	1 ea.	"	"	
Evaporative cooling table, 30-ton min. capacity, Curtis Model CT-30 or equal.	1 ea.	"	"	
Packaging and sealing tables, table top 2 ft. x 4 ft., thermostatically controlled.	4 ea.	"	"	
Table, meat, 26 in. x 72 in. Gondolas, various sizes.	1 ea.	"	"	
Shelving, various sizes.	10 ea.	"	"	
Mallory Air Force Base, Memphis, Tennessee, Director Procurement and Production.				
Installation of Air Conditioning System and Ventilating System at Mallory Air Force Depot, Memphis, Tennessee.	Job	(40-604-54-78B) LOCAL PURCHASE	16 Jun 54	
Warner Robins Air Materiel Area, Robins Air Force Base, Georgia. Attn: Director, Procurement and Production.				
Rehabilitation and Modification	Job	LP-27B	15 Jun 54	

of Bldgs. 1833 and 1834 (carpentry, painting, air conditioning.)

Supply and Fiscal Officer, Naval Air Station, Yukon, Florida
Deliver and Install FOB Jacksonville, Fla.:
Refrigerators, Gas, 6 cu. ft. 84 207-77-54B 23 Jun 54
Refrigerators, Gas, 8 cu. ft. 187
Ranges, Gas, Apartment Size. 330
Hot Water Heaters, Gas, 330
20 gal.

General Stores Supply Office, 700 Robbins Ave., Philadelphia 11, Pennsylvania
Fan, Electric, Type SA8 a.c. 88 ea. 2 2147 B 30 Jun 54
Current, Single Phase, Non-Portable, Bracket Type, Oscillating, Direct Drive, Guar. High Shock Resistant, Mil Spec. MIL F 68C (Ships) Amend 1.
Fan, Electric, Refrigeration, Space Type II, Non-Portable, Non-Oscillating, Direct Drive, Guarded Metal or Laminated Phenolic Propeller Blades, High Impact, Shock Resistant. Mil Spec. MIL F 151B Type II.

Office of Small Business, Foreign Operations Administration, Washington 25, D. C.
Fan-Cooling. 1 set (SBC NO. 54-244) 2 Jul 54

Field Command, Armed Force Special Weapons Project, Sandia Base, Albuquerque, New Mexico
Construction of Three-Quarter Baths and Installation of Evaporative Coolers in Ten Officers Quarters. Job (S29-044-54-123B) 16 Jun 54

Officer in Charge, Construction, Fifth Naval District, Norfolk, Virginia
Installation of Air Conditioning Equip. in Bldgs. 823 and 836 at Navy Hospital, Bainbridge, Md. Deposit of \$10 Required for Plans and Spec.

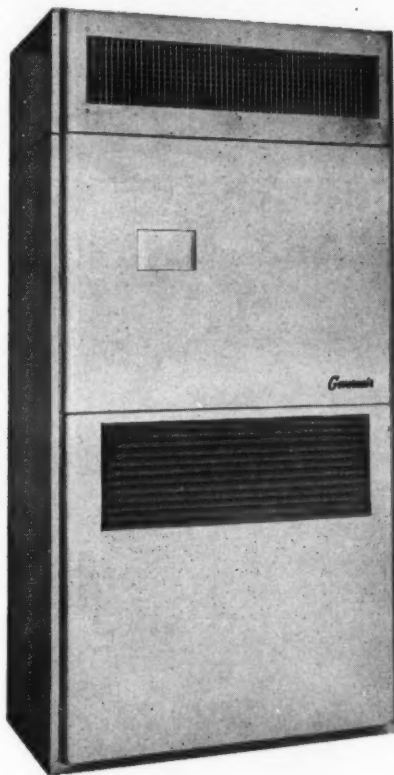
Bureau of Ships, Washington, D. C.
Refrigerating condensing unit non-magnetic 1/4-ton cap. air cooled 115 volts, a.c. 20 549-870Q 30 Jun 54
Water chiller with controls Note, above equipment per spec ships-R-1589 dated 14 May 1954. 10 549-870Q 30 Jun 54

Officer in Charge of Construction, Naval Air Advanced Training Command, Corpus Christi, Texas
Air condition link trainer dispensary and control tower. Job 40687 18 Jun 54
NAAS Chase Field, Beeville, Texas.

GENERAL SERVICES ADMINISTRATION

Business Service Center, General Services Administration, 575 U. S. Courthouse, 219 S. Clark St., Chicago 4, Illinois
Refrigerators, AA-R-211c. 44 ea. CHD-1063 22 Jun 54
No spec. 5 ea.

An "Upright" Air Conditioner!

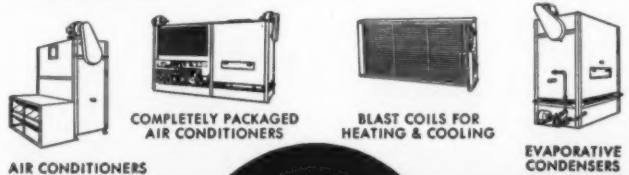


Governair
Type SC
Conditioner

Yes, this is an upright Governair self-contained conditioner—but that's not the reason for the halo.

The halo is there because this air conditioner behaves itself! Built to perform true air conditioning quietly and efficiently . . . it does just that! Flexibility, compact design, easy installation, dependability and economy are among its many virtues.

Available in capacities from 3 to 15 tons, the Governair Type SC Conditioner is the answer to your air conditioning needs in commerce, institutions, factories and homes. Choose Governair . . . originators* of completely packaged air conditioners!



GOVERNNAIR

*Type SCU Conditioners Patent No. 2,297,928

GOVERNNAIR CORPORATION • 513 N. Blackwelder • Oklahoma City, Okla.

Unarco Reports Earnings Of \$107,339 for Quarter

CHICAGO—Earnings of Union Asbestos & Rubber Co. for the first quarter of 1954 were \$107,339, plus a non-recurring profit of \$213,617, compared to a net of \$69,961 for the same period in 1953, it was announced recently by Edwin E. Hokin, president.

Earnings for the first three months of this year from regular operations amounted to 22 cents per share as against 15 cents for the same period last year.

The non-recurring profit from the sale of property was equal to 45 cents per share after taxes. Total net profit for the quarter was \$320,956.

Net sales increased from \$2,810,588 for the first quarter of 1953 to \$3,139,184 for the first three months of 1954.

"While the earnings for the first quarter are encouraging they do not reflect the efforts of our organization in introducing its heating and cooling equipment," Hokin said.

"Actually we lost money on this operation for the first three months, which was expected, but at the rate at which sales are progressing we expect to turn the corner and have this department in the black before the year's end."

"Our total operations thus far for the second quarter are somewhat better than those of the first quarter. If there is no further decline in general business conditions our operations for the balance of this year should be on a satisfactory level."

"We now have 36 offices handling our heating and cooling products from coast to coast. Their response to the introduction of these items has been most encouraging and we believe that they will account for a rapidly increasing proportion of our total sales."

Union Asbestos & Rubber earned 35 cents per share in the entire year of 1953.

Heads GECC Allentown Office

PHILADELPHIA—William J. Meehan has been named manager of General Electric Credit Corp.'s Allentown, Pa. office, according to E. H. Kalemjian, manager of the Philadelphia district. Meehan was formerly credit and collection manager in the Allentown office.

Du Pont Sets Up Market Analysis for 'Kinetic' Div.

WILMINGTON, Del.—Du Pont has established a market analysis for its "Kinetic" Chemicals Div., with Joseph C. Hoopes of Wilmington as manager.

Hoopes, 34-year-old native of Hollidaysburg, Pa., joined Du Pont in 1942 as laboratory technician at its Jackson Laboratory, Deepwater Point, N. J., shortly after graduation from Princeton university. He served in the sales development section of the company's Organic Chemicals Dept. from 1946 to 1949, when he joined the Trade Analysis Div.

Wagner Electric's Offices In Atlanta In New Building

ST. LOUIS—Wagner Electric Corp. has announced recently that its electrical and automotive branch offices have moved from separate addresses to a new building at 1536 Boulevard Ave., N.E.

The modern building has 20,000 sq. ft. of floor space, efficient dock facilities, and ample parking area, the company said. Offices are air conditioned.

Kathabar Acts To Expand Its Coverage In Midwest

TOLEDO—To increase sales and service coverage in the midwest, Kathabar Air Conditioning Div. of Surface Combustion Corp. has appointed three new sales agents and located two company representatives in the Chicago area, F. M. Johnson, sales manager, announces.

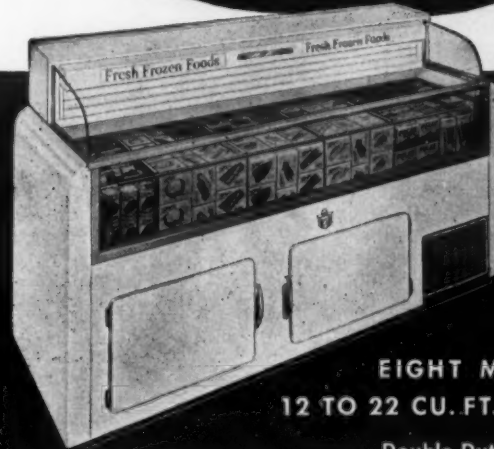
George V. Zintel has been appointed exclusive sales agent for the metropolitan Chicago area; Manufacturers Sales Co., Kansas City Mo., will represent Kathabar in western Missouri and north-eastern Kansas; and Hester Bradley Co., St. Louis, will be sales agent in eastern Missouri and southern Illinois.

The two company representatives are D. M. Valentine, an industrial engineer, and F. B. Oates, an engineering graduate from Bradley university. The territory covered by them will be west of a Detroit-Indianapolis-Chicago-St. Louis line.

Valentine, who has been covering this sales territory since 1946 from the Toledo home office, will serve as district manager. Oates will concentrate primarily on providing additional service help.

A Great New Line of Frozen Food MERCHANDISING CABINETS

By *Schaefer*

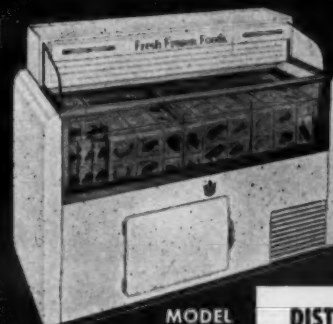


MODEL
FGF-224D

With low type superstructure, 22 cubic feet capacity. Displays 660 standard frozen food packages. Holds 10 cases in storage compartment. Also available with shelf type superstructure.

EIGHT MODELS
12 TO 22 CU. FT. CAPACITY

- Double Duty
- Extra Storage Capacity
- Fashioned Exclusively for Frozen Food Merchandising
- Space Saving
- Portable—Self Contained
- Low Original Cost
- Low Operating Cost



MODEL
FGF-164D

With low type superstructure, 16 Cu. Ft. capacity. Displays 460 standard frozen food packages. Storage compartment holds 6 cases. Also available with plastic or shelf type superstructure.

DISTRIBUTORS — REPRESENTATIVES

Our new policy of forming the Frozen Food Cabinet Division of Schaefer, Inc. enables us to expand our distributor and representative organization. If you are interested in a Schaefer Frozen Food Cabinet franchise, send the coupon or write today.

Frozen Food Cabinet Division
SCHAEFER, INC.
802 Washington Avenue, No., Minneapolis 1, Minnesota

Send details on the Schaefer Frozen Food Cabinet Line.

As a
DISTRIBUTOR

As a
REPRESENTATIVE

NAME

FIRM

ADDRESS

CITY

ZONE STATE

N. Y. Code--

(Concluded from Page 1, Col. 3) ing Engineers, A.F.L., who crowded the council chamber to protest against any changes in the present code which makes it mandatory to have a licensed operating (stationary) engineer for any system containing more than 50 lbs. of refrigerant (this generally figured to include 15-ton systems and larger).

The revised proposed new bill (Council Intro. 68) on the administrative sections would require licensed operating engineers for systems containing the following quantity of refrigerants:

REFRIGERANT	QUANTITY	
(ASA-B9 code classification)	Non-Automatic System	Automatic System
Group 1 (Other than CO ₂)	100 lbs.	350 lbs.
Carbon dioxide (CO ₂)	50 lbs.	200 lbs.
Group 2 and Group 3	50 lbs.	200 lbs.

The proposed new measure has the backing of all industry groups, and is also said to have the tacit approval of installing union groups.

However, when proponents of the bill went to the hearings they found the committee room picketed by more than 100 union members, with another 300 packing the chambers.

This led Arnold Witte, legislative service manager for the Commerce and Industry Association, to open his presentation for the new measure by stating:

"I am glad to see so many engineers here today. It shows the equipment can get along without them."

This caused the uproar by the labor representatives, which reached such heights that Councilman Hugh Quinn, chairman of the committee, had to resort to stringent measures to restore order, once commanding the sergeant-at-arms to eject James C. Quinn, an officer of the Central Trades and Labor Council, to be put out of the room if he engaged in further demonstrations.

The labor group contended that there would be a safety hazard if systems of the size proposed in the new measure were to run without an operator on duty, and that the bill, if passed, would put many people out of jobs.

Those favoring the measure said that modern safe refrigerants and modern safety devices have reduced hazards of operating equipment to almost nothing, and that operating engineers should be required only on the larger systems, where it would be more a matter of economics (in having an operating and maintenance man on hand) rather than safety.

Fedders Prediction--

(Concluded from Page 1, Col. 3) room who wouldn't concede the 1½-million unit figure and even bet that it comes closer to 1,750,000 units, that is, providing our industry can supply them, which is doubtful," Cassatt said.

He indicated that industry sales next year will be two million units, worth \$700,000,000 at retail, emphasizing that attainment of the two billion annual sales goal may depend upon the success of "our mutual efforts to lick the job of financing inventories at factory, distributor, and dealer levels."

York Names Serfass--

(Concluded from Page 1, Col. 3) June 1, but he is expected to remain as vice president and director until July 31.

A graduate of Lehigh university, Hertzler began his career with York as a student in the firm's course for college graduates. After completion of this course he served as a sales engineer until 1935 when he was made manager of the air conditioning division.

In 1938 he was appointed a general representative of the corporation on sales and was made general sales manager in 1940. His next appointment, after his return from the armed forces in 1945, was that of vice president and general sales manager.

Summer Marts--

(Concluded from Page 1, Col. 5) pate check-outs June 24 and 25, and indications are that accommodations will be in fairly good supply the second week.

Dealers touring the Merchandise Mart will find two new appliance tenants: The Maytag Co. in 11-105, and Westinghouse Electric Co. in 11-122. The mart also reported that Crosley Div. of Avco Mfg. Corp. is increasing and completely remodeling its display area to include the Bendix Home Appliance Div., in 1130-37.

Relocated 11th floor showrooms include The Coleman Co., Inc., from 1134 to 11-109, and Monitor Equipment Co., from 1135 to 1123A.

One of the events that has been held for some time during the summer market—the mid-year meeting of the National Appliance & Radio-TV Dealers Association—is not scheduled for this market period.

Because many members felt that the trip to Chicago would be too costly, the association decided instead to conduct a series of regional meetings during the time of the market, according to A. W. Bernsohn, managing director.

Tax Refund Rules--

(Concluded from Page 1, Col. 5)

"(i) In the case of refrigerators and appliances, any such article which on April 1, 1954, is held by a dealer and which on such date has not been used (that is, title to such article or possession thereof has not at any time been transferred for purposes of consumption to any person other than a dealer) and is intended for sale. . . .

"(5) The term 'holder' or 'dealer' means any wholesaler, jobber, distributor, or retailer holding floor stocks intended for sale. . . .

"(d) Basis for refund or credit. The claim for refund or credit shall apply only with respect to floor stocks held on April 1, 1954, by a holder. Electric light bulbs, refrigerators, or appliances in transit at the first moment of April 1, 1954, shall be regarded as being held by the person to whom shipped; except where title to such articles does not pass until delivered to the consignee, in which case they shall be deemed to be held by the shipper.

"(e) Limitation on amount of refund or credit. The amount to be refunded or credited under this section shall in no case exceed the amount which the manufacturer, producer, or importer has paid to the holders as reimbursement for the tax reduction on the articles sold by him to such holders.

"(f) Time and place for filing claim for refund or credit—(1)

Refund. A claim for refund shall be filed on Form 843 before Aug. 1, 1954, with the district director of internal revenue. . . .

"(2) Credit. A claim for credit against tax due shall be taken on the appropriate tax return filed with the district director of internal revenue before Aug. 1, 1954. . . .

"(g) Statement to be attached to claim for refund or credit. Every person filing a claim for refund on Form 843 or a claim for credit on Form 720 must attach to such form a statement to the effect that (1) he has paid tax on the articles covered by his claim at the rate in effect at the time such articles were sold by him, (2) he has in his possession and available for inspection by internal revenue officers at his principal place of business the evidence with respect to the inventories required by paragraph (h) of this section, (3) he has actually reimbursed all holders of such inventories prior to the date of the filing of his claim, (4) the amount of his claim does not exceed the amount that he has paid to the holders as reimbursement. . . .

"(h) Evidence required to support a claim for refund or credit—

(1) In general. Every person filing a claim for refund or credit under the provisions of this section must support such claim by having in his possession and available for inspection by internal revenue officers at his principal place of business for at least a period of 4

years from the date of filing of such claim evidence showing the following:

"(i) Inventories. . . .

"(b) Refrigerators and appliances. The total inventory of all refrigerators and appliances sold tax-paid and held as floor stocks on 12:01 a.m. April 1, 1954, and intended for sale. The inventory shall show the model number of each article and the quantity of each model. . . .

"(c) Items includible in inventories. . . . The following are some items which shall not be included in such inventories:

"(1) Refrigerators, appliances, or electric light bulbs purchased by the holder as a component part of, or on, or in connection with, another article;

"(2) Refrigerators, appliances, or electric light bulbs purchased tax-free by the holder;

"(3) Refrigerators, appliances, or electric light bulbs previously sold by a holder to a purchaser for use and thereafter repossessed.

"(iii) Proof of reimbursement to holders—(a) In General. Each claimant must have in his possession satisfactory evidence showing that each holder of articles on which a refund or credit is claimed under this section has with respect to such articles held by him on April 1, 1954, been properly reimbursed and that such reimbursement was actually made prior to the time the claim for refund or credit is filed. . . ."



ARCHITECT AND ENGINEER: IRVING W. RUTHERFORD
CONTRACTOR: THE EDWARD PACKTOR CO.

600 TONS OF AIR CONDITIONING
BY BUSH... for West Hartford
Shopping Center

At the new Bishop's Corner shopping center, West Hartford, Conn., every provision has been made for customer and employee comfort. In keeping with the keynote on quality, over 600 capacity-tons of BUSH air conditioning and heating products were selected.

Prominent among Bush equipment installed are Air Handling Units in both vertical and horizontal models. Advantages of these versatile central station units are many: rigid angle iron framing and self-aligning ball bearings assure long life, eliminate vibration and guarantee quiet operation.

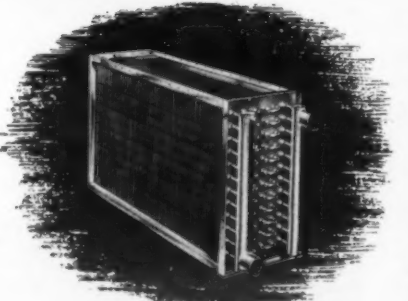
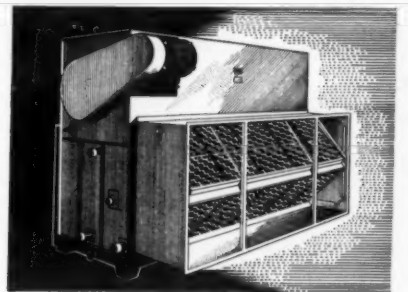
All units have built-in by-pass sections to provide 100% air by-pass when required. Centrifugal type fans, mounted on a common solid steel shaft, are statically and dynamically balanced for quiet, efficient operation. Matching housing with scroll for each fan insures smooth air flow.

Capacities range from 800 to 21,600 CFM, with nominal ratings from 3 to 65 tons. Face and by-pass dampers, humidifiers and both throw-away and cleanable type filters are available for all units.

Catalog 710A, free on request,
contains complete specifications.



BUSH MANUFACTURING COMPANY
WEST HARTFORD 10, CONNECTICUT



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